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ABSTRACT

Twenty articles describing innovative courses and teaching methods are included in this first annual collection. Techniques for English courses are described in four articles covering the uses of media, the tutorial approach, teaching the art of questioning, and using the steps of film production as analogy in writing instruction. Two articles describe interdisciplinary courses in the sciences and humanities, while a third discusses one means of involving faculty in interdisciplinary programs. Biofeedback training and the use of counselors as instructors are considered in two articles on personal development courses. Other descriptions of innovative approaches include the use of art in teaching western civilization; simulation in nursing education; a course in geometry based on inductive reasoning; ways of involving students in American Indian history; using corporate annual reports to teach the accounting language of business; competency-based instruction in art history; teaching analytic thinking in introductory sociology; computer-assisted instruction in biology; and using federal census data as primary sources in history instruction. Descriptions of the Educational Skills program at Fashion Institute of Technology and of an effort to bring library services to off-campus students complete the document. (DC)

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INSIGHT

An annual collection of articles on teaching and learning by faculty of the **community colleges** of the State University of New York.

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INSIGHT

An annual collection of articles on teaching and
learning by faculty of the community colleges of the
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1977

FOREWORD

Insight is intended to serve as a means of communication for all interested in teaching and learning at community colleges. The community colleges of the State University of New York have achieved much in the area of instructional innovation in and out of the classroom, especially in meeting the special needs of "the new students," those not-so-hypothetical individuals who were traditionally overlooked by higher education. Indeed, teaching and learning in SUNY community colleges deserves the careful and thoughtful attention provided by this publication. Appropriately, the first issue of this annual appears at about the time of the largest two-year college event ever held in New York State, the week-long celebration of Community College Week.

I am especially grateful to the University's Faculty Council for Community Colleges, the statewide representative advisory organization for the faculties of the thirty SUNY community colleges. The representatives on this Council did much to inform their colleagues of the plans to publish the annual and provided the Editorial Board. That Board's task was not easy, as several dozen manuscripts were submitted for review.

I do hope that the diligent work and creative ideas of the authors represented are useful to community college educators, both in and outside of New York State.

Cornelius V. Robbins
Associate Chancellor for
Community Colleges

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THE QUESTION BOX: WHAT'S IN IT FOR STUDENTS?

by David E. Tobin
Assistant Professor of English
Niagara County Community College

My directions to the freshman English class are relatively brief and simple: "Your job is to find out the contents of that box." Pointing toward the desk in the center of the room, I indicate the plain cardboard box. Slightly larger than a breadbox, the sealed carton still bears the label showing that it once contained bond paper. Several students notice that detail.

As students study the container, I continue to explain the rules of the "game": "To discover the box's contents, you will have to ask me questions to which I can respond with either a yes or a no." Several students exchange nervous glances. "If I cannot answer yes or no, you may rephrase the question." Looks of relief and annoyance appear. "I will try not to mislead you intentionally; I realize your own questions and comments will be misleading enough." A few students look puzzled. "Each person will continue asking questions until he or she gets a negative response. Then the next person will get a chance to ask questions. No one will be allowed to sit back and not ask a question." Eyes begin to roll. "The class will continue this process until you determine the contents of the box. When you do so, I will open the box and confirm your discovery." Let's-humor-him-and-get-on-with-it smiles appear.

Before I have a chance to ask whether there are any questions, a voice from a student in the last row near the window asks, "Do we get to see what's in the box before we leave?"

"That depends," I respond, "on whether you find out the contents of the box." From around the box comes a ragged chorus of dissatisfied "aw's" and disturbed "oh's". At the same time, knowing looks among the guys in the back hint of the possibility of killing a class period. "Ah, how long does this take?" one youth inquires overly cooly.

"It depends on how long it takes you to discover the contents of the box," I answer. "The longest time for a class to do this has been about three class periods." The calculations begin; about one hundred fifty minutes they figure. "The shortest time has been about twenty-seven minutes by a group of students in Data Processing."

The passive masks begin to crack as eyes swing from me to explore the silent, increasingly intriguing box. Jaws tighten; eyebrows arch; eyes probe the external surface for clues. Instead of gazing at a crystal ball, these "marks" look at an inscrutable tan container on the table in the center of the room. Assuming the role of soothsayer, I stride to the table and, drawn by the box's mystery, sit before it, my eyes scanning its impassive features, concentrating on the revelation it contains.

Withdrawing from my momentary reverie, I inquire, "Are there any questions?" Silence. "Are there any comments?" From the left rear of the classroom a stage whisper announces: "This is ridiculous!" From the right, a voice wonders, more to itself than the class generally, "How the hell are we gonna find out what's in that box?" Before me a student who appears to be trying to stifle a smile and prevent her eyes from twinkling asks casually, "Are you doing this in your other classes too?"

"Yes, " I respond, and the twinkle brightens; the lips begin to relax. "Of course," I add, "I change the contents of the box for each of my other classes." Her eyes blink; the smile never reaches fruition. "Anything else?" I pause. "By the way, this game is a variation (for those of you old enough to remember) of the radio show Twenty Questions. O.K., since there aren't any other questions, we'll begin. Karen, you may ask the first question."

Surprised, Karen exclaims, "Thanks a lot!" The laughter reveals everyone else's relief at not having been called upon first. The nervous laughter quiets to anticipatory silence. We wait. "Is is bigger than a breadbox?" she asks in mock innocence. We chuckle at her delivery of the oft-used line.

"No, Steve Allen," I respond to her, sharing the reference, "it is not. Paul . . . ."

Shrewd Paul looks hopefully from the label on the box to me. "Is it five thousand sheets of bond paper?"

"No," I react to his look, "but that is a good question. You are not overlooking the obvious and" — offering a hint for the more curious -- "you are challenging an assumption. That's good."

"Is it something rare, or is it a common thing?" quickly asks John next.

"Yes," I respond promptly. The class erupts into laughter. Flustered, John demands to know which part of his question my response applied to. Beside him sits his friend Peter who offers his advice: "You asked him two questions in one, dummy. He ain't gonna tell ya. Ya gotta ask. Go ahead; ask him each one." John does so and discovers, before he strikes out, that whatever the box contains, it is "common".

Data begins to accumulate. The curiosity and pace increase as the particular questions get their brief responses: Is it round? Yes. Is it Flat? Yes. Is it square? Yes. Is it liquid? No.

Still another student has his chance: Is it plastic? Yes. Is it Metal? Yes. Is it blue? Yes. Does it have a motor? No.

Suddenly Mike, seemingly lethargic but obviously alert, detects the apparent contradictions. Loudly he protests, "Wait a minute! Wait a minute! What are you doing? How can it be round and flat and square at the same time?" The other students, nodding assent and murmuring support, look at him, then swivel toward me for some explanation.

"That's a very good question," I admit and smile disarmingly. "However, you'll have to wait your turn." His frustration is apparent as he tenses his body, springs out of his slouch, and throws down his pencil. The challenge of discovery has gotten to him; he is impatient to get his turn.

His observations stimulate others. They are really listening to one another. The next questioner decides to change his approach and assist his frustrated classmate. "You're putting us on; there's nothing in the box!" he asserts. I wait. The class waits. Someone unsubtly reminds him that he has to ask a question. Gathering his wits, he demands confirmation of his suspicion, "The box is empty, isn't it?"

"No," I respond quietly, and he hurls his pencil into a nearby wastebasket as if he were disposing of his shattered hypothesis. The babble among the rest of the class reflects their confusion. Mike urges the intervening students to get quick no answers so he can have his turn. The others, however, demur. This problem is perplexing, intriguing, challenging, and they want their chance at solving this enigma.

Nevertheless, some students' difficulty with diction is surfacing. As they struggle to balance the elements of denotation and connotation while they juggle context, some falter. One student assesses his predicament; his remarks pinpoint his and several of his classmates' concern: "I know what I want to say, but I just don't know how to say it." We empathize with his struggle. Everyone focuses on him. We wait. After several false starts, each increasing his frustration, he observes, "I just can't find the right words." Finally he settles for, "Is it a book?"

"No," I respond. Perhaps my voice reflects the ambivalent mixture of relief and dismay that we feel has gone into his effort to formulate a question. The focus of attention shifts, and the probing continues. Now more thought and care go into expressing the questions.

Poised on the edge of her chair, Renee seems ready to leap into the intellectual fray. Nevertheless, worried about a negative response, yet hopeful of confirming her theory. She sits for a moment, drumming out the rhythms of her anxiety and ambivalence on the desk top with her fingertips. Finally she quite tentatively inquires, "Is there more than one thing in the box?"

"Hey," asserts Mike, who wants his share of the credit, "I was gonna ask that!"

I nod and beam at both of them. "Yes. That is an excellent question, Renee. You are challenging a nice comfortable assumption that I suspect most of the class has made: 'Old Mr. T. probably put our textbook or a pen in the box. Big deal.' If you weren't making a similar assumption, your language suggested that you were at least presuming that there was only one item in the box. How did your language do that?"

The newest discoverer puts her finger on it -- literally. "We all used 'it'," she declares.

"And . . . ?" I prompt.

"Well, it is the pronoun for a thing -- one thing."

"Right!" affirms Mike, now a vocal supporter.

"Very good," I encourage them, then continue my explanation.

"I anticipated such an assumption, probably because I made it myself as I was setting up the box. Well, I decided that was too simple. I thought that I'd just make the problem a little more difficult. I figured you'd find it more interesting that way." There are grunts of assent, groans of frustration, and a few giggles of delight.

The interrogation resumes -- a bit more intensely. Several students feel comfortable with the discovery that there are at least two items in the box, and the next series of questions obtains more particular, but still confusing, data. Not until Mike gets his chance does the class follow up on establishing the actual number of items in the box. Since he has center stage — finally -- he uses the opportunity to preface his question with a comment.

"You're lookin' kinda smug, Mr. Tobin. I want to go back to assumptions. Now we learned that there is -- are? -- more than one thing in that box. Now right away I assumed that there are two things in there. That'd explain how the shape and the material are different, and how we got so many different positive answers." He is arranging his papers, squaring their edges as he gathers them, and perhaps his thoughts, into a neat package.

"But maybe there are more than two things in there." He rather scornfully points toward the box as other students' eyes widen in alarm: Would Mr. T. put more than two things in the box? That possibility seems astounding. Treasonous. A violation of the simplistic student-teacher roles. Unthinkable. Nevertheless, the Unthinkable takes form. Pleased with the reaction around him, the inquisitor continues, "Are there more than two things in that box?" His manner is grand. A drama student?

"Yes, Mike, " I readily admit.

"Ah, ha!" he shouts. Then, flushed with success he pursues his point. Ultimately he determines there are, in fact, three items in the box. In addition, before he plays his part out, he establishes a means of dealing with the contents systematically. He and everyone else agree to label the elements respectively Item One, Item Two, and Item Three. The class, now overestimating my wiliness, considers my approval a concession.

The quest for particulars continues. It is flawed. The students tend to leap too quickly and too frequently from relatively general categories to very specific elements within the categories, as the next few inquirers' remarks reveal: Is Item Two metal? Yes. Is it a paper clip? No. Is Item Three made of paper? Yes. Is it a notebook? No.

Perhaps their excitement in discovering things for themselves sweeps them along. Perhaps they are caught up in trying to "win" the game. Whatever it is, they eventually discern a pattern to their questions and their over-hasty specification. They begin to build bridges of specification into the pattern of their inquiry. They and their colleagues can follow up and capitalize on positive and negative answers, as the next series of questions reveals:

"Nobody thought to ask if it's living," observes Marty, a budding biology major. He hesitates. The guys in the back row are snickering. "Is anything in the box *alive*?" he ventures.

From the rear comes a loud gaffaw. "Hey, Marty, ya think he's gotta mouse in there?" taunts one classmate.

Before I can respond, Martin does. His neck and face are flushed; yet his clipped explanation is controlled. "Don't you see? I had to ask. We don't know what's in there. If I'm wrong, we don't have to ask a lot of other questions on the wrong track. It'll eliminate possibilities."

"Right," I remark and commend Marty for his astute comments. "But my answer to your question is no." Marty nods, then makes a note.

Cathy, the next student, pursues a more specific line: "Is Item One man-made?"

"Yes."

"Is it made of a synthetic material, like plastic?"

"Yes."

"Could it be made of plastic?"

"Yes," I chide her, "it *could* be."

"Is it made of plastic?" she snaps.

"Yes."

"Then it probably has a fixed shape. It is -- uh -- rectangular?"

"Yes."

"Let's see. . . If it's hollow, it could be some sort of container, like a pencil case or a food container. If it's solid it could be a ruler or -- uh -- a paperweight." Cathy, thinking out loud, is sharing her reasoning process with the class. Such commentary may be helpful or harmful. Frequently other students stray from the main line of inquiry as they misapprehend the comments or make personal associations of their own, often totally conflicting with the data already established. I fear their becoming entangled in the nets of their own red herring. Fortunately they avoid that trap and stay on course.

"Is it hollow?" she finally asks.

"No," I respond, aware of the crisis. Cathy is dismayed.

James, however, picks up the slack as the line of questioning passes to him: "Is Item One made entirely of plastic?"

"Yes."

"Is it solid?"

"Yes."

"Does it have writing, I mean, printing on it?"

"Yes."

"Is the printing regular? Uh, that is, does it mark off things at regular intervals, uh, like a measure?"

"Yes." I find it difficult to restrain a smile as he starts to grin triumphantly.

"Is Item One six or more inches long?"

"Yes."

"Is it used to measure things?"

"Yes." He is almost glowing, bursting with optimism. My own smile widens, broadened by his sense of impending accomplishment.

"Is Item One a ruler?"

"Yes!" I beam in the flow of his insight, sharing his delight.

And so it goes. They become more proficient at questioning. Ultimately, they narrow the possibilities of Item Two down in a similar way until they discover it is a stapler.

In pursuit of Item Three, a magazine, some students are disgruntled to learn that I require them to establish its full title. A few are satisfied to have gotten the three items and are tired of the game. They see no point in learning the name of the publication. However, their more interested and involved classmates, the majority of the group, rather enjoy the task and do want to see it through to its conclusion -- if not to reinforce their new skills with diction, classification, and logic, then at least to satisfy their curiosity. In fact, they become quite intolerant of inattentiveness. When a question is repeated unnecessarily, one or two vocal investigators declare: "Hey, you turkey; that already's been asked. Pay attention!"

Furthermore, their curiosity has been so aroused that they are willing to do some research on their own. For instance, if the exercise continues into the next class meeting of the week, some students will go to the library, look through the periodicals, and try to find a title to match the clues they have, or they may try to get magazine titles to use in pursuing the box's contents. By then they realize that I have chosen a magazine that they are not familiar with.

Ultimately, of course, they do discover the precise contents of the box, and they are pleased with their efforts and their success. And they should be, for *they* have questioned a mystery and learned a truth. In the process they have discovered a new resource, their own curiosity. They take pleasure in their discovery and in the process by which they made it. They have begun to learn on their own, and I share their pleasure.

Nevertheless, as I open the box to confirm their discoveries and to explain any responses, there is usually one student who still struggles to put the experience in perspective. When he asks the final question, "What are we supposed to have gotten from this game?", the students don't often need me to respond, for they have their own answers:

Mike responds quickly, "I learned that I make assumptions and that I need to challenge them."

"And I learned that asking two questions in one is confusion and can lead to misunderstanding," adds John, who has overcome the embarrassment of his discovery.

"I found out how difficult it is to ask good questions -- ya know -- to find the right words, " offers the student who grappled with that problem.

Renee comments on the relationship between words and ideas: "I thought it was fascinating to see and hear the way our questions and comments reflected our attitudes toward The Box."

"Yea," affirms Cathy, "and I found out how to build bridges between the abstract and the concrete, between the general and the particular. It's just like you said, Mr. Tobin."

"Don't forget," cautions Marty, turning to the guys in the back of the class, "that negative answers are useful, too, even if they seem foolish to some people. It's better to ask a question and find out, then not to ask a question and never know at all."

"Yea, I guess so," says the student who originated this last question. He warms to the subject: "That's all true. Yea! It is. And I learned something. I learned to get involved, to ask questions, and to learn on my own."

"Excellent!" I exclaim, impressed with the quality of their observations. Finally getting a chance to offer my own perspective on the exercise, I suggest that the real significance of the Question Box is that questions enable students to discover a great deal more about themselves, their language, and their world, than they would have done had they not asked questions. I point out that without their questions there are no answers; without their curiosity there is little motivation; without their probing there is no discovery. And that's what's in the Question Box for them.

THE USE OF ART IN THE WESTERN CIVILIZATION COURSE

by Robert Hoyt Block
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Nassau Community College

In these days of declining student reading skills it has become increasingly obvious that the traditional approach to teaching Western Civilization must be modified. Heavy dependence on reading assignments, while largely excluding visual aids, is doomed to failure with many of today's college students.

In an effort to make the course more understandable to my students I began to decrease my emphasis on both the text and outside readings. My long held interest in art led me to experiment with the use of works of art in teaching history to a far greater degree than is usually done. For each historical era or development discussed in class I chose contemporaneous art works for use as primary sources of historical knowledge. At no time have I ever made esthetic judgments of any work, for I feel that this is the province of the art department. Rather I have concentrated solely on subject matter and not on artistic merit.

Choosing the specific examples for the course proved a major undertaking since I was unable to find any list of historically significant (as distinguished from artistically significant) works. Much research was involved before I chose several dozen which I felt possess sufficient historical importance to be made into slides for classroom use. Textbooks were of only slight help to me for not only were they usually limited to the same relatively small number of famous works, such as Holbein's portrait of Henry VIII and Picasso's Guernica, but they rarely contained any attempt to place the art in a satisfactory historical framework. Years of using such textbooks have proved to me that mere reproduction of art works without discussion of their importance as historically significant primary sources serves little if any purpose in the history class. The reaction of one of my students to an unexplained representation of Delacroix' Liberty Leading the People was to ask, "Who's the topless lady?"

In choosing works of art it is essential that they not only be carefully selected for maximum historical importance, but that some limitations be made on what would otherwise be an impossibly large number of works. From the start I decided that only works by fairly well-known artists would be used, thus eliminating the thousands of works by minor artists who never gained lasting fame. I also preferred to use works relating to events which occurred in the artist's own lifetime, since I believed that in this way the art was likely to be more historically accurate than those works depicting events in previous times. To help me decide on the degree of historical accuracy of individual paintings, I consulted books about the respective artists. I decided to limit my choices to pictorial art, which I found to be more historically significant than other art forms. Although the majority of works selected were straightforward and strictly representational, some allegorical works and others where the artist used "poetic license" were also chosen with the assumption that I would explain them sufficiently in class. The allegorical figure, for example, in Liberty Leading the People does not significantly detract from this historically important painting, but it does require the instructor to provide some interpretive comment if students are not to be left wondering about the identity of "the topless lady."

Since the Western Civilization course at Nassau concentrates on the period beginning at 1500, it is logical for me to start with the art of the Renaissance. I begin by showing slides of about a dozen paintings which are divided into three groups based on subject matter: portraits, religious works, and those paintings with subjects based on the ancient world, especially its mythology. Students are shown several works in each of the three categories and are told that each type of painting helps explain aspects of the era of its creation. Portraits not only reflect the period's emphasis on the individual and often depict the types of clothes worn, but also show that by this time individuals had become wealthy enough to commission artists to paint portraits. DaVinci's *Mona Lisa*, for example, is believed to have been commissioned by her husband, a prominent Florentine official. Certainly such a secular portrait would never have been painted in the Middle Ages when almost all art was religious in nature. Yet the many religious paintings of the Renaissance serve as proof that religion still played an important role during the era. Works such as Raphael's many depictions of the Madonna and Child prove this point while such paintings as Botticelli's *Birth of Venus* indicate the interest that the Renaissance had in the ancient world and its mythology. Many Renaissance paintings also prove that there was a high level of scientific knowledge during that era. Paintings such as Botticelli's *Allegory of Spring* display good knowledge of botany while the human figure in Michelangelo's *Creation of Adam* shows that the artist had an understanding of anatomy.

Art is also very helpful in teaching about the Reformation and the resulting religious wars. The elegance and lavishness of the Catholic hierarchy, especially when compared to the far simpler style of life of the early Protestant leaders, can easily be demonstrated by showing slides of Cranach's *Luther and Friends* and Raphael's *Leo X and Cardinals*. The lavishly ornate garments in the latter contrast greatly with the plain black garb shown in the former. The two slides can serve as a point of departure for a discussion of Protestant attacks on the extravagance of the Roman church. Among the paintings used to discuss the subsequent religious wars is Titian's equestrian portrait of Charles V at Muhlberg. Despite the fact that it was painted a year after the event, it possesses an enormous historical significance which is almost never even hinted at in the many textbook reproductions of the work. Charles had himself depicted exactly as he looked when he defeated the Protestant forces at the Battle of Muhlberg in 1547. Such details as the spear and armor and the red sash which was the symbol of the Catholics during the religious wars can all be seen. *The Surrender of Breda* by Velazquez depicts a scene from the struggle during which the Protestant Dutch fought against the Catholic Spanish in order to achieve their independence. When the Spaniards formally relinquished their claim over the Dutch the artist TerBorch witnessed the ceremony. All evidence points to the fact that his painting entitled *The Treaty of Munster* is almost cameralike in its accuracy.[2]

The next period I cover is that of divine right monarchy. The famous portrait of Louis XIV by Rigaud is thoroughly discussed with emphasis placed on the many ways in which the work depicts the divine right concept. The painting is also very useful for making comparisons with other pictures. It is not a coincidence that later French rulers such as Louis XV and Louis XVI who also claimed to rule by divine right had themselves depicted in much the same manner as Louis XIV in Rigaud's portrait. I then insert Ingres' 1829 painting of Charles X to show that even after the 1789 revolution of French monarch who claimed to rule by divine right had himself portrayed with the same symbols of power as his predecessors.[3] *The Syndics* and *Night Watch* in order to show the enormous differences between the French and Dutch governments in the seventeenth century. The businessmen who had themselves portrayed in Rembrandt's works were the same types who ran the Dutch government. The contrast between the plain clothed businessmen and the French monarchs is very clear. The portrait of Louis XIV can also be compared with Watteau's picture entitled *The Hardships of War*, which the artist painted during the War of the Spanish Succession near the end of Louis XIV's reign.[4] This work, which is believed to have been painted when the artist was visiting the battlefield, clearly shows the exhaustion of the French troops during the years of their frequent defeats. If Louis XIV was actually as self-confident as he appears in the Rigaud portrait he was deluding himself, for his nation was becoming increasingly weaker militarily, debt ridden and exhausted. Watteau's painting reflects the historical reality of Louis' last years far more accurately than Rigaud's. The portrait is reproduced in almost every history book while the battle scene, by a far more important artist, is almost completely unknown. I believe this fact shows the types of distortions which can take place when history textbooks all reproduce the same paintings without exploiting those of equal if not greater historical significance.

The works of Jacques Louis David have frequently been used as textbook illustrations of the French Revolution and Napoleonic eras. Yet the contribution of these works to history is often overlooked. An example can be seen in The Death of Marat. Jean Marat, one of the leaders of the Reign of Terror, was himself assassinated in 1793. David was a personal friend of Marat and had seen him the day before the murder. The highly idealized portrait was no doubt meant to serve the French Revolution in much the same way as paintings of the dead Christ served the Roman church. The work has been called "the pieta of the Revolution"[5] as well as "the greatest political picture ever painted."[6]

Among the many French artists who depicted Napoleon was David's student Ingres who portrayed the self-proclaimed emperor in Portrait of Napoleon I on his Imperial Throne. Unlike depictions of the Bourbon monarchs, no sign of the fleur-de-lis can be seen, for that was the Bourbon family symbol. Nevertheless the figure looks every bit as powerful as Rigaud's Louis XIV. In order to make the viewer forget just how recently the ruler has acquired his power, Ingres shows him as a wielder of timeless authority. Napoleon is surrounded by the trappings of the rulers of both ancient Rome and medieval France. For example, the eagle on the rug was a Roman symbol. In his hand Napoleon holds what were believed to be Charlemagne's sword and hand of justice. Certainly no other figure born into an unimportant family has ever been depicted in such stately splendor.

While French artists willingly produced flattering portrayals of their nation's leader, some painters in other countries, particularly those conquered by Napoleon's troops, felt quite differently. In this group was Goya. The Spanish artist's May 3, 1808 depicts a French firing squad brutally murdering Spaniards in Madrid. The work was painted six years later in 1814 after the French had been driven out of Spain and was not meant to record the events of a single evening, but rather to show the atrocities committed by Napoleon's forces during their six-year occupation of Spain. Goya's message could not be more different from that of French artists like Ingres. While they, like most of their countrymen, regarded Bonaparte as a great leader, many other Europeans came to see him as little more than a cruel tyrant.

After discussing the Napoleonic era and its aftermath I then proceed to the Industrial Revolution. The inhuman conditions of European workers at this time is realistically portrayed in the works of Kaethe Kollwitz. In a series of six prints entitled The Weavers she vividly depicts the misery and hardships of the working class. This series was based on an actual historical event, the revolt and defeat of the weavers in the Prussian territory of Silesia in 1844. The employers of these handloom weavers found themselves increasingly unable to compete with British machine-made cloth and constantly forced their workers to produce more until the latter revolted. The rebellion was quickly and brutally crushed by Prussian soldiers.

Although the series refers to a specific event it also provides visual evidence of the appalling conditions of many European workers in the nineteenth century. One print entitled Marching Weavers shows the rebels with their heads down and a look of absolute hopelessness and dejection, while another entitled Attack shows the workers in their tattered clothes contrasting sharply with the elegant gate of the employer's mansion to which they have come to protest their conditions.[7]

The luxurious living of the employer class can be seen in works such as Renoir's Mme. Charpentier and her Daughters. Renoir was a personal friend of Georges Charpentier, as well-to-do publisher, and painted members of his family several times. This painting not only portrays the wife and daughters in their elegant clothes, but also depicts the stylish home of a fashionable family in the 1870's. One need only compare this work with Kollwitz' weavers to see the difference between the employer and employee classes in nineteenth-century Europe.

The First World War, which brought great changes to the lives of Europeans, both rich and poor, was frequently the subject of works of art. Many of Europe's younger artists fought in the conflict and used their experiences as subject matter. Otto Dix saw action in the German army and some of his paintings, such as The War are based on first hand knowledge of the conflict.[8] France's Fernand Leger served as a stretcher bearer at the Battle of Verdun. Shortly afterward he was hospitalized after having been gassed. While in the hospital he painted The Card Party based on sketches he had done at the front.[9] In the painting he shows several robot-like figures playing cards. Far from depicting the figures as realistic he portrays them as void of any individuality; in order to achieve the power and precision of machine-like robots. Leger's painting thus sacrificed realistic resemblance in order to mirror a historical fact.

The rise of the Nazis in Germany was denounced by the Berlin artist Georg Grosz in such works as A Man Of Opinion, painted in 1928.[10] The artist had visited a beach resort in northern Germany and was disgusted to see Nazi banners and other emblems in mass profusion. In his watercolor Grosz depicts a male figure with a prominent Nazi arm band. Other figures including one in a bathing suit are too involved with their daily concerns to care. In this work the artist used his talent to denounce his fellow Germans for their lack of concern about the rise of Nazism.

Five years later the Nazis won control of Germany and soon plunged Europe into the most destructive war in modern times. Many of Europe's cities and towns were destroyed by aerial bombardments. Grosz, who had moved to New York to escape Hitler, was one of many artists who used the Second World War as subject matter. Soon after hearing that his mother and aunt had been killed when their home was destroyed in the bombing of Berlin, Grosz painted a work entitled Peace. While he described it as "almost a requiem for my mother," the painting has far greater significance, for it symbolized the devastation of wartorn Europe. An elderly female figure is shown standing among ruins. She is all alone and seems dazed. Nowhere are there signs that any of her family or possessions were spared. The figure could symbolize the many Europeans who lost everything in the war. In many respects the old woman resembles the European continent, which would have to rebuild if it were to have a future.

In this memoirs the Austrian artist Oskar Kokoschka wrote that he could learn more about the past by viewing works of art than by any other method.[12] Judging by the reaction of my students there is a great deal of truth in this statement. The students have been overwhelmingly favorable to my approach and the art has served to evoke discussions which never occurred when I relied almost solely on reading assignments. Questions on such diverse topics as types of clothes and warfare are easily answered with the use of art. Furthermore it is far easier to make comparisons using a couple of slides than it is to refer to two different written pages. Looking at slides also helps whet student appetites to learn more about the past and seek further knowledge even if it means reading the textbook. The old adage "One picture is worth a thousand words" may be exaggerated, but judging by my gratifying experience, pictures, when adequately explained and used along with words, have an extremely powerful impact in the classroom.

FOOTNOTES

[1] After these criteria led me to reject countless numbers of works I ended up with almost six dozen. My research and writings concerning the historical significance of each work led to my writing a manuscript for which I am currently seeking a publisher.

[2] Unlike the previously mentioned works which are frequently seen in books this painting is seldom reproduced. In each case where I mention a little known work I shall cite a source where it can be seen. A color reproduction of *The Treaty of Munster* can be found in *The New International Illustrated Encyclopedia of Art*, 24 vols; (New York, Greystone Press, 1967), XXI, p. 4250.

[3] Reproduced in Robert Rosenblum, *Jean-Auguste Dominique Ingres* (New York, Abrams, 1967), p. 35.

[4] Reproduced in Charles Sterling, *Great French Paintings in the Hermitage*, trans. Christopher Ligota (New York, Abrams, 1958), p. 46.

[5] Jean Leymarie, *French Painting The Nineteenth Century*, trans. James Emmons (Cleveland, World Publishing Company, 1962), p. 21.

[6] Kenneth Clark, *The Romantic Rebellion* (New York, Harper and Row, 1973), p. 30.

[7] Herbert Bittner, *Kaethe Killwitz Drawings* (New York, Thomas Yoseloff, 1959), plates 7 and 8.

[8] Fritz Loffler, *Otto Dix Leben und Werk* (Vienna and Munich, Anton Schroll and Company), plate 128.

[9] Robert L. Delevoy, *Leger*, trans. Stuart Gilbert (Geneva, Skira, 1962), p. 61.

[10] Hans Hess, *George Grosz* (New York, Macmillan, 1974), p. 174.

[11] Ibid. p. 228.

[12] Oskar Kokoschka, *My Life*, trans. David Britt (New York, Macmillan, 1974), p. 207.

EDUCATIONAL SKILLS: A GLOBAL APPROACH

by Mildred Rothman, Sheila Pyros, Irene Hyman,
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Fashion Institute of Technology

For the past four years and in 1977-78 the Educational Skills program of the Fashion Institute of Technology has been supplemented by a Department of Health, Education and Welfare Trio grant in the form of a Special Services (SS) project. The aim of this project is to provide special remedial classes (which do not duplicate instruction provided by the college) and/or other special services to students who have the potential to succeed in college but who have various forms of deprivation.

This paper will focus on the innovative approaches to classroom instruction of these students who need help in developing efficient reading, writing and study skills in order to function effectively in college, and eventually, in the fashion careers for which they are being trained. They are typically students with basic skills deficiencies and socio-economic handicaps which can blight their demonstrated potential in art and design or business and technology.

With the understanding that the experience of the previous years has influenced our curriculum and methods, we have chosen to take the academic year 1976-77 as an example.

As a result of previous experience and observation of our students' reactions, we firmly believe that nothing works in a vacuum; everything must be in a context. The students who come to us have had their fill of commercial skills-drill kits, arbitrary vocabulary lists and prescriptive grammar that never helped. While young children signal in rather flamboyant ways when insturction is not getting through to them, college freshmen can tune out more subtly but just as devastatingly. Their eyes glaze over, watches are glanced at surreptitiously and elaborate sketches are made in notebooks. To ensure that instruction reaches our students, who are goal-oriented and pragmatic in outlook, we have developed a career-related and interconnected skills program.

Thus, reading and writing skills instruction is coordinated, one reinforcing the other. We believe that a dichotomy between language skills is artificial and deprives students of seeing the connections that make language a meaningful, organic whole. In addition, reading, writing and study skills are applied to real and immediate needs - through the materials and assignments of the courses the students must take at F.I.T. - and in a formal way, by specific interdisciplinary classes.[1] This fusing of process and content, with one strengthening the other, provides motivation and gives a relevance to basic skills instruction which in turn increases academic success.

Under a project director who supervises all the components of the program, the faculty consists of full and part-time reading instructors with at least a masters degree in remedial reading and writing instructors with at least a masters degree in linguistics.

All new instructors receive in-service training. At the time of hiring, they are asked to acquaint themselves with the college catalog, the course(s) of study of the SS classes they will teach, and samples of all materials. The use of a specific course of study for reading and for writing maintains a unity in the curriculum and gives newcomers a point of reference. However, these instructional guides are not considered the Holy Grail. The input of new faculty is encouraged and often becomes part of the changes and additions that are constantly being made.

In addition to weekly meetings, a special workshop and orientation meeting is held before the beginning of each semester for the entire SS faculty and staff. This provides opportunity for discussion of instructional techniques, for questions to be answered and for everyone to get acquainted.

With the aid of college resources, the whole incoming freshman class is given a placement test consisting of the Cooperative English Tests (Reading Comprehension, Form IA) and a diagnositc writing test developed by members of our writing faculty. The writing test consists of a controlled essay and a "sentence combining" exercise. Scoring is based on an evaluation sheet[2] which makes grading more objective. Students who meet the Office of Education eligibility criteria and who score from the 8.8th percentile to the 20.9 percentile on the standardized reading test with weakness in the writing subskills of mechanics, sentence variety, and paragraph development are placed in SS Educational Skills classes (ES20 interdisciplinary). Those who score from the 6.2 percentile and down on the reading test and in the lowest range on the writing test are placed in other SS Educational Skills classes (ES10). Formerly, students for whom English is a second language were in special classes under the project. This year these classes were in the college part of the Educational Skills program.

ES20 - Interdisciplinary

ES20 is a five-hour course with three hours taught by a reading instructor and two hours taught by a writing instructor. This year the ES20 interdisciplinary classes were formally connected to an introductory fashion marketing course (FM11). An important factor in making this arrangement work is the coordination between instructors. The reading and writing instructors are in constant contact with each other and mesh their assignments regularly. An example of this cooperation is the preparation of students for fashion marketing exams as shown in chart below.

TEST-TAKING (READING/WRITING COORDINATION)

FM refers to introductory fashion marketing course

FM 11 EXAMS	ES 20 PREPARATION-READING	ES 20 PREPARATION-WRITING
Compare and contrast essay questions.	Using notes and FM textbook, students anticipate compare and contrast type questions. They collect information necessary for answering the question.	We discuss alternate ways of organizing the information into essay answers to the questions they had anticipated. Students write answers in a compare and contrast essay format and edit them for organization, details, grammar and punctuation.
Definition questions.	Based on their textbook and lecture notes, the students generate a list of terms that they might have to define on their next exam.	Students collect information they need to define their terms and write a brief sentence for each term. Then they combine the short sentences into one-or-two sentence definitions. This is an adaptation of "Sentence Combining," a technique for practice in writing complex and compound sentences.

The skills instructors use common terminology so that students see the relationship between reading and writing. In the reading component, the students are asked to find the key elements of the paragraph, and in their writing assignments they then apply this understanding of paragraph organization. In addition, writing instructors use the materials of the reading class to generate content for writing.

A second type of coordination is that between the skills and the FM instructors who have weekly meetings to keep the former abreast of the content area requirements and to coordinate assignments. Because the FM instructors emphasize that one must be competent in reading and writing to succeed in the fashion buying field, the students are receptive to skills instruction.

ES20 - Reading

In the reading component the emphasis is on connecting reading comprehension, study skills and vocabulary building to the needs and materials of the FM class. For example, after the skills of previewing a textbook chapter, underlining a reading assignment, outlining for review, and summarizing are taught, the students are motivated to apply them in their major course. Instead of using standard reading texts, we use the FM text Inside the Fashion Business and FM terminology for practice and application of skills. In addition, Top of the World, an anthropological paperback, has proved effective for stimulating interest in reading and for developing critical thinking/reading skills. Newsweek magazine, to which the students subscribe, is not only a rich source for vocabulary development, but also enables students to practice reading skills while broadening their general knowledge.

In an attempt to involve the students more actively in reading, the reading instructors introduce a "process approach" based on psycholinguistic principles. The instructor tries to analyze the processes the students use while they make their way through difficult material, in order to arm them with appropriate strategies for improving comprehension. A questioning procedure[3] which highlights clues (transitionals, pronouns and punctuation) helps students see the relationships within and between sentences.

For example, the following sentence from the novel Top of the World, is initially difficult for students to understand. The questioning procedure not only helps them to comprehend this lengthy sentence but gives them a tool for understanding other complex sentences.

Text		Question	
1	As each appearance of one	a.	What is the last word of this whole sentence?
2	of my Eskimo stories, in an		
3	American magazine or abroad,		
4	has entailed a deluge of	b.	What did the letters ask in line 5?
5	letters inquiring whether		
6	the background I used had	c.	To whom does the "I" in line 6 refer?
7	any factual base, I now		
8	wish to state beforehand	d.	What does beforehand mean in line 8?
9	that the social, sexual,		
10	and alimentary habits, the		
11	religious beliefs, the	e.	To what does "it" refer in line 15?
12	medical practices, and		
13	other modes and manners	f.	What does ethnological mean in line 17?
14	described in this book,		
15	though it sails under the		
16	flag of fiction, are sober	g.	Now take this sentence and break it up into as many simple sentences as you can.
17	ethnological facts, applying		
18	chiefly to the Central Eskimoes.		

ES20 - Writing

The aim of the ES20 writing component is to provide students with a systematic approach which can be applied to each writing situation. In reports about the success of remedial writing programs and curricula in recent years, two issues have been mentioned repeatedly. One is whether grammar instruction carries over into writing. Another is whether students who improve their writing in the remedial writing class use what they have learned to write better in their content courses. The writing curriculum makes explicit the relationship and transfer of 1) grammar to writing, 2) reading to writing, and 3) writing in a skills course to the writing demands of content courses. The work in the remedial writing course provides suggestions and practice for writing better in a variety of situations. An example of how assignments in the writing skills component are constructed to help students do the writing for content courses is shown on the chart below.

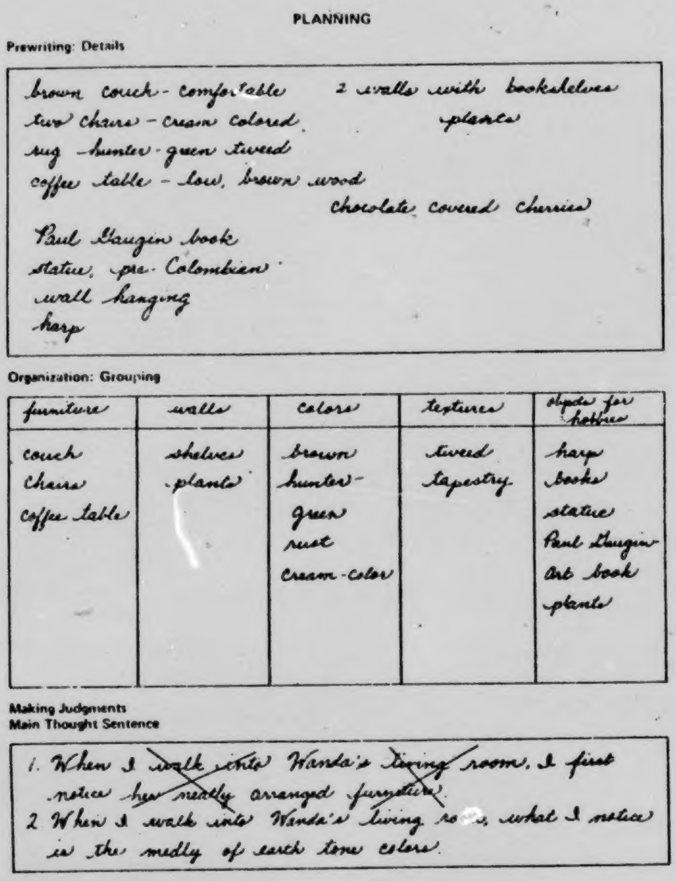
ANALYSIS OF A FASHION MARKETING ASSIGNMENT AND THE PARALLEL ES 20 WRITING ASSIGNMENT

FM11 WRITING ASSIGNMENT	BREAKDOWN OF TYPES OF WRITING INVOLVED	PARALLEL ES20 WRITING ASSIGNMENT
Report on trip to a showroom Students are asked to write a report including a brief description of the showroom, an explanation of what happened there, and a statement about what they learned.	Description of the showroom: DESCRIPTIVE WRITING	Describe a store window display: DESCRIPTIVE WRITING Provides practice with the following aspects of descriptive writing: 1. main thought sentence 2. details; use of present tense; patterns of organization; grammar as editing.
	What happened at the showroom?: NARRATIVE WRITING	What happened at an FIT fashion show? (or some other event) NARRATIVE WRITING Provides practice with the following aspects of narrative writing: proper use of different tenses; paragraph organization; chronological presentation of events; details - what to include; integration of description and narration and basic narrative form.
	What did you learn from the visit to the showroom? ANALYTIC WRITING	What did you learn from watching a film of a ballet? ANALYTIC WRITING Provides practice with: expressing judgments in a main thought sentence using details to justify opinion; grammar as editing.

	All parts of the assignment integrated	After the Fashion Marketing instructor returns student papers with comments, the writing instructor goes over them individually with students for elements of grammar, punctuation, and organization that need improvement. As a group we go over the use of transitions in tying together parts of the report. Some students rewrite their papers.

The curriculum divides the writing process into three steps: planning (pre-writing and grouping), writing the first draft (creating sentences and basic organization of paragraphs), and editing (applying grammatical analysis to each sentence and paragraph). This breakdown enables students at attack writing in a step by step way, concentrating first on content, then on organization and sentence construction, and then on grammar and mechanics. As a result, the experience of writing is more efficient and less frustrating because a student does not try to cope with all these aspects of the writing task at once.

An example of student's work in the planning stage is shown below.



PLANNING

Prewriting: Details

brown couch - comfortable
two chairs - cream colored
rug - hunter - green tweed
coffee table - low, brown wood
Paul Gaugin book
statue, pre-Colombian
wall hanging
harp

2 walls with bookshelves
plants
chocolate covered cherries

Organization: Grouping

furniture	walls	colors	textures	objects for hobbies
couch Chairs Coffee table	shelves plants	brown hunter-green rust Cream-color	tweed tapestry	harp books statue Paul Gaugin Art book plants

Making Judgments
Main Thought Sentence

1. When I ~~walk into~~ Wanda's ~~living~~ room, I first notice ~~her neatly~~ arranged ~~furniture~~.
2. When I walk into Wanda's living room, what I notice is the medly of earth tone colors.

From: Writing: A Discovery Approach, by Mona Schwartz and Colette Daiute Spinelli

After the student has planned the paper, he or she writies a first draft and then edits the work using editing guidelines. These build cumulatively during the semester as grammar principles relating to writing are introduced and practiced in class. The grammar analyses in the Editing Guildelines are adapted from section analysis,[4] a workable grammar system that students can use to discover the grammatical patterns and errors in their own writing. Sector analysis provides students with operations, such as the yes-no question, which help them analyze their sentences and paragraphs. Armed with the Editing Guidelines (samples available from the authors), and the experience of using them in class, many of our students become astute grammarians, able to improve their own papers.

ES30

ES30 is a two-hour laboratory-type course for students who have not made sufficient progress in ES20. Performance contracts to fit each student's specific skills needs are negotiated between students and skills instructors. Both a reading and writing instructor work individually with each student. Students bring in assignments and F.I.T. textbooks as the resource material for skills work.

Some of the techniques which have proved most effective in ES30 include:

1. grouping students taking the same content courses to work on assignments, papers and test preparation. In this way basic writing, editing, reading-study skills, and vocabulary techniques are reviewed and reinforced. This involves extensive consultation with the instructors of the other courses;
2. using a newly devised form on which each student projects assignments, term papers, and exams on a monthly basis. Since scheduling time is a problem for these students, this visual device helps them to plan ahead;
3. setting up exit criteria, based on several indices of progress, for both reading and writing.

ES10

As a result of our 1974 evaluation of student progress, we felt the need for a new course, to precede ES20, for students with the most severe skills weaknesses. Thus in 1975 we offered a new four-hour course (ES10) taught by a reading specialist who has also received in-service training in the basics of sector analysis and paragraph development.

ES10 focuses on basic language skills taught through a total communciations approach which shows the relationship between speaking, listening, reading and writing. In order to tap existing language competencies, we concentrate on literal comprehension through all modes starting with the visual. For example, the students' artistic talent is used in an assignment which asks them to make a collage built around a main thought. The class then "reads" the collages of all the students. Cartoons, magazine covers and advertisements provide further visual input for analysis of main thought and supporting details. Students listen to popular songs, such as Marvin Gaye's "Ecology" and Joni Mitchell's "The Circle Game" and analyze them for organizational elements similar to those they will uncover in written passages. Then they listen for the main thoughts of audiotaped mini-lectures developed by F.I.T. FM instructors. Finally, students read from texts and analyze paragraphs using the same skills they have used in the other modes of communication. Emphasis throughout the course is on individualized instruction and ongoing diagnosis of the basic skills deficiencies of each student.

The writing of ES10 students, compared to that of students placed directly in ES20, exhibits many more mechanical errors and awkward sentence structure, as well as extremely sparse paragraph development. Therefore in ES10 more time is devoted to whole-class brainstorming sessions to help students "unblock" their ideas before writing. Content for reaction papers is generated from discussion of assigned reading selections and the basics of paragraph organization and development are taught and practiced. Then editing techniques based on sector analysis are taught so students can edit their own and others' writing for the most persistent mechanics errors.

Other Services

To supplement classroom instruction, the SS project provides individual and small-group tutoring in liberal arts and technical courses for any eligible SS student on any semester level. A crucial feature is the consultation between tutor and instructors, between tutoring staff and counselors, and between supervisor and department chairmen.

Although we have focused on the instructional and cognitive aspects of our program, this cannot be divorced from other factors. Academic work is influenced by student feelings about themselves and their futures, and non-academic situations often cancel out the effect of the most expert instruction.

The college provides traditional counseling services (including help with personal and financial problems) to SS students. In addition, a grant-funded group counselor works exclusively with SS students in group sessions which provide a forum for discussion of such areas as orientation to the college environment (its requirements and resources), developing clearer understanding of program and career choices, and using this new information in planning for success at college and in the working world.

From the start of the program we realized the importance of building in an evaluation component which would help us to monitor ourselves to see if we are achieving our objectives, to measure how effectively the project has been serving its participants, and to modify our actions accordingly.

From the beginning we have retained a psychologist as an evaluation consultant to conduct a cumulative, longitudinal study of student progress in all areas of the program, from entrance to graduation. The result has been a gradually evolving evaluation design including 1) various measurements of academic progress - standardized and non-standardized tests, criterion-referenced measures of specific skills, grades in content courses, grade and cumulative grade point averages, and case studies; 2) measurement of student attitudes; 3) quantitative and qualitative measures of group counseling and tutoring results; 4) retention and graduation statistics.

Descriptive statistics have been compiled during the past four years of the project. Results of the 1976-1977 academic year are presented to highlight the overall trends in student progress.

Table 1

Median Percentile Scores and Range of Scores on the Cooperative English Tests (Reading Comprehension, Form IA) ES10; ES20 (Interdisciplinary)

Cooperative English Test	Pre-test/Range	Post-test/Range
ES10	4.2 (.9 8.8)	6.2 (.2 20.9)
ES20	16.0 (2.7 26.8)	20.9 (12.1 56.2)

Table 2

Mean Total and Subtotal Scores on the Writing Diagnostic Test (ES10; ES20 Interdisciplinary)

Writing Diagnostic Test	ES10		ES20	
	Pre-test	Post-test	Pre-test	Post-test
Total Score	17.7	24.8	24.2	30.1
Subtotal Scores				
Mechanics	5.2	7.5	7.5	8.8
Sentence Variety	3.7	4.7	4.9	6.7
Organization	3.3	5.0	5.0	5.9

NOTE: The ES10 students started lower both in total score and in the three subtotal scores but reached the "entering level" of the ES20 interdisciplinary students in each case. The ES20 students started out higher and in each area reached what is considered the regular English Composition level.

Criterion-referenced measures were developed to assess changes in specific skills. In the ES20 interdisciplinary classes, greatest gains in writing occurred in organization, clarity of wording, and mechanics. Greatest gains in reading occurred in ability to define words through context clues. In ES30 greatest gains in writing occured in organization and clarity of wording. Greatest gains in reading occurred in ability to write the main thought of preselected paragraphs in a complete sentence.

In the ES20 interdisciplinary classes, 12% of the FM grades received by the students were in the A range, 55% were in the B range, and 29% were in the C range. Thus, 96% of the students received a grade of C- or above in the content course.

An end-of-semester assessment scale was administered to pinpoint students' feelings about the effectiveness of the course and its components. Table 3 compiles the answers to some sample questions: for example, how much did the course help to improve reading comprehension, writing and editing, and self-confidence in academic work?

Table 3

End-of-Semester Assessment Scale Responses

		Not at All	Slightly	An Average Amount	Very Much
ES10	Reading Comprehension	2%	18%	57%	23%
	Writing and Editing	2%	14%	48%	36%
	Increased Confidence	8%	15%	40%	37%
ES20	Reading Comprehension	0%	5%	40%	55%
	Writing and Editing	0%	0%	10%	90%
	Increased Confidence	0%	0%	25%	75%
ES30	Reading Comprehension	0%	26%	56%	18%
	Writing and Editing	7%	11%	49%	33%
	Increased Confidence	0%	19%	44%	37%

A pre- and post-qualitative questionnaire showed greater awareness of available college resources and a greater understanding of the curriculum requirements for their major. At the end of the sessions, an extremely positive attitude towards the group sessions was expressed in writing. Almost all the participants felt that these sessions should be recommended to all freshmen.

90% of SS tutees and about the same percentage of their referring instructors indicated on a written questionnaire that tutoring was effective in helping students to pass the course(s) in which they were tutored.

For ES10 students, 64% had a grade point average of C (2.0) or above after one semester. After two semesters, 69% of those still registered at F.I.T. had a cumulative grade point average of C or above. For ES20 students, 92% had a grade point average of C or above after one semester. After two semesters, 91% of those still registered at F.I.T. had a cumulative grade point average of C or above.

Graduation and retention statistics have not been presented in detailed, cumulative form because this paper only deals with one year. However, the trend in graduation rates has been encouraging. For students entering SS classes in Fall 1973 the graduation rate was 42% after three years, while for those entering in 1974 the rate was 49% after 2 1/2 years, with the potential of this percentage going higher after three-year statistics are processed.

The completion of the circle is the relation of the program to the rest of the institution and vice versa. We feel that the most effective way of accomplishing our goals is to take a wholistic approach requiring concerted effort on the part of the people involved in every component of the project together with the people in the rest of the college (those in instruction, support services, and administration) to help these students succeed.

To familiarize the rest of the institution with our program, we have held workshops for every division of the college, and we have had an Educational Skills Committee made up of a representative from every department. In all these activities we have tried to sensitize others in the institution to the academic and non-academic needs of our students; inform our colleagues of what we teach and how we teach it; explore specific ways in which we can help one another help our students. As a result, members of the Fashion Buying and Merchandising Department (in addition to participating in the interdisciplinary projects) consult with us on the problem of constructing test questions. Members of the Placement Office are invited into our classes as guest speakers. When we create modules for skills exercises for our students to use in the projected Skills lab, we use the vocabulary of the technical courses. At our suggestion, a textile science instructor makes videocassette tapes that review the most difficult concepts in the introductory course. A history of art and civilization instructor makes slide-tapes that review a unit on Greek sculpture. They meet with our reading instructors for advice on the use of key vocabulary, key questions, and self-testing.

Finally, we must know our population and provide what they need at this particular institution at this particular time. This involves constant self-questioning and self-analysis, a continual search for better methods of reaching our students, a willingness to discard what doesn't work and a mental set in which we are optimistic and confident.

This report was made possible throught he collective efforts of Mildred Rothman (Project Director); Sheila Pyros and Irene Hyman (reading instructors); Colette Daiute (writing instructor); Barry Karp (evaluation consultant).

FOOTNOTES

[1] The major in technical courses but must take a minimum of 24 credits in liberal arts to earn the AAS degree.

[2] Specific criteria, with a point system adapted from an official NCTE scoring sheet developed by Diederich, have been set up for evaluating the various skills revealed in an essay.

[3] An adaptation of Dr. O. Patterson's "what instructional strategy."

[4] Allen, Robert. English Grammars and English Grammar. New York: Charles Scribners, Sons., 1972

SOME STAGES OF INNOVATION: THREE EXPERIMENTAL OFFERINGS

by John James Collins
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One of the developing tendencies in many community colleges is a move towards interdisciplinary courses. Such an approach often does greater justice to the presentation of subject matter than the more narrowly focused, traditional insights offered by specialized disciplines. The community college setting, with its generally small size and reduced bureaucratic structure in comparison to four-year schools, appears to be a perfect medium in which such innovative course offerings might take place. The present paper is a brief account of three such attempts in which the author was involved at Jamestown Community College. Each can be ranked on a scale representing departures from standard academic fare.

Human Behavior

The first of these special courses was developed in response to a specific need in a program of Human Services. This program prepares students for employment as paraprofessionals in child care, social services, education, geriatrics, recreation, and mental health. While the required courses in the program do present students with offerings dealing with human behavior (i.e.: psychology and sociology), it was decided that one interdisciplinary course integrating findings from various fields pertaining to human behavior would be valuable. It would pull together basic concepts pertaining to this subject and force students to realize the wholistic aspects of what it means to be human.

In order to accomplish this end three major questions were posed for students and dealt with in lectures, reading materials, and discussions. First we asked about the biological framework for human behavior. The content of this question was based on the assumption that certain human needs and behavioral expressions are a biological given: "that which we bring with us." A brief account of human physical evolution was presented and basic human physical needs were suggested. We dealt with how our biological nature forms focal points for non-biological behaviors (for example, infant helplessness for family organizations). Discussion also centered on the relation between biology as an innate feature of human existence and the special cultural world we eventually enter.

The second phase of the course occupied most of the semester and presented the psychological and sociological frameworks for human behavior; "what we become." We began here with psychological needs, then turned to personality development and socialization. Suggested stages of life, sources of influence on the individual, and components of behavior were highlighted. Brief discussions of mental health, deviancy and its correction were incorporated at this point. We then examined social/cultural needs such as role differentiation and assignment as a background from which to explore such major institutions as the family and religious groupings (primary and secondary groups). At this juncture we also introduced two related behavioral perspectives: the unique nature of human language as a precondition for the human achievement and concerns of morality and ethics.

The last, and very brief, phase of this course dealt with the future framework for human behavior; "where we are going." Many of the preceding topics were again re-examined in light of possible ecological crises, population, and changes in technology and society; for example, the effects of culture on biology. This was an important perspective for students about to enter careers in human services. The overall notion of integrating data from at least half a dozen disciplines around the notions "what we bring with us, what we become, and where we are going" turned out to be an apt vehicle for such synthesis. Such a basic perspective seemed to turn on the students to the unitary reality of human experience. One coordinator (an anthropologist) was charged with overall coordination for this course, lecturing and leading group discussions on some topics and bringing in guest speakers for those with which he had little or no experience. This has been a continued and successful course offering and we feel its rather simple but unique focus would be highly adaptable for courses in general education and not just applicable to our own specific purpose.

The Religious Experience

A second innovative course at Jamestown is more overtly interdisciplinary. It involved four faculty members drawn from anthropology, philosophy, psychology, and sociology to present a unified perspective on human religious experience. All four were always present in a lecture/discussion format. We wished to synthesize knowledge about religious behavior, a topic of increasing interest among many students today. Again, the medium of posing basic questions was utilized. These were as follows. First, what is religion?; how do we limit the scope of this behavior since questions always determine data selection. Second, how are religious truths known? This topic included discussion of classic proofs for the existence of god as well as the problem of religious authority. Next, we asked about the nature of religious experience itself. Here types of rituals, altered states of consciousness and related phenomena were discussed. Then what are the consequences of religious belief and behavior? What needs are met by this unique realm of experience; for example, cognitive, expressive, substantive, and affiliative? We then posed the question, how do we get our religion? How are such beliefs obtained and practices learned? At this juncture we also made a distinction between leaders and followers in such activities. A last basic perspective dealt with social change and religion. How do beliefs and practices change over time? A few representative religious movements were presented at this point.

On all of these issues, perspectives from the four different fields were represented although some had more to offer than others. We also drew illustrative data from both primitive as well as "modern" experience. Finally, at the end of the course, some general systems of contemporary belief were presented in unitary fashion; for example, Judaism and Hinduism. To supplement our own, now more limited expertise, we invited guest lecturers on most of these faiths; to the positive response of the class. We considered this last aspect of the course as enrichment as well as partial illustration of what had gone before.

In sum, by presenting such a course according to this unified format we hoped to stimulate the awareness and imagination of our students in the most total way possible on one topic, the institution of religion. In the widest way possible we argued over how best to define this topic, demonstrated the sources of its credibility, presented the range of such experiences in belief and behavior, suggested consequences of this element of culture, and observed its changes. In addition to students being exposed to the interdisciplinary complexity of the subject, this course also demonstrated (via arguments between the four faculty involved) that there are no set answers. And most students found this a refreshing difference from their other courses.

Nature of Man/Celebration of Life

This third course represents what might be called an attempt at the ultimate educational experience. It was based upon the results of merging into one package two originally separate ideas and different groups of faculty members. One course came to be entitled The Nature of Man. Its aim was to present interdisciplinary material in a fairly traditional cognitive manner on that topic. Its innovations were chiefly concerned with trying to fit together some major dimensions of human life and to make these as relevant as possible to the needs and experiences of students. Lectures and discussions were the primary learning tool with the content supplied from a number of disciplines. A second course, The Celebration of Life, was designed to run concurrently. It was intended to be more affective and experiential in nature, to exemplify and vivify the cognitive materials, to more deeply involve the students in the learning process. Its activities included role playing, fantasy experiences, simulations, multi-media presentations, and other humanistic techniques.

Faculty for the combined program were drawn from anthropology, biology, English, music, philosophy, psychology, and theater; nine persons in all. The program was offered on eight non-successive Saturdays on an all-day basis and the students received six credit hours for the double course. All involved faculty were present at all times. In sum, our efforts presented a package of learning content and experiences in which, in an interdisciplinary context, the dimensions of human existence were presented both cognitively and affectively.

The major effort behind the course, what made it truly innovative beyond the mixture of instructional techniques and faculty, was the development of a single framework of integration; a framework both for presenting cognitive materials and for devising the experiences to supplement and enrich them. In brief, we decided to consider both the basic stages of human life and some important influences on the individual at such occasions. For each stage and influence intersection we posed one (of many possible) significant question to be discussed cognitively and experienced affectively. Our complete program is indicated below.

MODULES

	Birth/Early Childhood	Youth	Adulthood	Death
Individual	what does it mean to be born-our biological heritage	how does personality develop	who am I-self reflection in adulthood	the prolongation of life
Environment	the effect of physical surroundings on man	the effect of the man-made environment on man	family and responsibility - its effect on behavior	the crises of ecology
Society	the effect of language on human behavior	responsibility	lifestyle-alternatives	the ritual of death
Ideology	the psycho-social needs of man in general	the conceptual needs of youth	religion and ethics	concepts of the future

Students as well as faculty found this learning package extremely stimulating. Grades were assigned on the basis of projects, the number and formats of which were individually negotiated with students. It should be mentioned that with the necessarily small number of student participants and the high faculty involvement, this course was sponsored as a pilot project by the National Endowment for the Humanities. Any regular offering will have to scale itself more realistically to the economics of the collegiate situation.

It is hoped that this report may serve as a stimulus for similar experiments at other community colleges.

The first course is, essentially, handled by one teacher and the responsibility for outside expertise is his alone. Its innovation is chiefly in the area of unified content over a broad subject range. The second was a more truly interdisciplinary effort, both in content and in personnel and an excellent way to penetrate into the data of one specific topic. The last was a severe effort to depart as completely as possible from traditional formats, to wed as many teaching styles and insights as practical around a central theme. It is a difficult to stage, but ultimately mind-expanding educational effort. These course offerings, each in its own way, were satisfying avenues of educational innovation.

CREATING A LEARNING EXPERIENCE THROUGH SIMULATION

by Loretta Kloda
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A trend seen in many communities today is an increase in the number of students seeking entrance into nursing programs and a decrease in the number of hours made available by clinical facilities for laboratory practice. This trend seems to be the result of many factors, some of which are: greater concern for patient safety, recognition that patients' anxiety levels are increased by the numerous people involved in administering some aspect of their care, increased sophistication of patients, and the realization that continuity of care is disrupted when many learners are in a clinical area for a brief time period. Recognizing that this trend will continue, teaching methods in nursing programs need to be created that will minimize the number of clinical hours needed to learn a particular skill with at least the same degree of expertise as in the past.

In an attempt to accomplish this, a method of learning the technique of administering medications was developed and tried with first year students in an AAS program in nursing.

The students were first introduced to the topic of medications by a reading assignment in a fundamentals of nursing text and a lecture which dealt with theoretical material commonly found on this subject in nursing publications. This was followed by a lab where each student had the opportunity to examine the materials used in administering medications, i.e., the medication kardex, medication ticket, various medication containers, samples of drugs in various forms (capsules, enteric coated tablets, scored tablets, suspensions, elixers), medication cups used for liquids and tablets, etc. The entire procedure for preparation and administration was demonstrated on a film. This was followed by a discussion of each part of the procedure, and the film demonstrating the procedure was again shown.

Within a week following this lab, each student signed up for a simulated medication experience. This experience was designed to simulate the hospital in which the student would eventually adminster medications. The medication kardex, tickets and drug containers were identical to those which would eventually be used in the hospital. Substituting items which are similar but not identical tends to interfere with learning a specific task. The task of transferring is not only a separate skill but a higher level skill that can best be dealt with at a later date.

Medication tickets were prepared using primarily drugs which were presented in class. A few drugs not presented in class were also used in preparing the medication tickets, however, all of the drugs were commonly prescribed for patients in the clinical facility. A number of references previously recommended by the faculty were available for student use during the simulated experience.

When the student arrived for the simulated experience she or he was given a medication assignment, such as the following:

Administer 9 a.m. PO med to Mr. Green
Miss Wax
Mr. Flynn
Mrs. Tobey
Mrs. Murphy

All patients are located in Kardex B

The student then proceeded with the assignment doing whatever was thought needed, such as looking up drugs in the reference books, setting up a medication cart, comparing the tickets with the kardex, etc. The student could at any time clarify the assignment or ask questions about information present or absent on the medication tickets or kardex with the instructor present in the room. When the student was ready to pour and administer the medications, she or he notified the instructor.

The drugs in the medication cupboard were arranged in the same order, i.e., alphabetical as in the hopsital but there were fewer drug containers. Since most of the drugs were administered in unit dosages, each of the containers contained paper slips with the name and dose of the drug. The drug itself was omitted but the paper slip contained the same information found on the unit dose wrapper. When preparing each patient's medication, the paper slip was placed in the medication cup just as a unit dose would be.

Within the same room were five beds and two chairs. In each of the beds and chairs were "patients" who wore identification bands. When the student completed pouring the medications, she or he proceeded with administering the medications to the patients and then recording the medications as given, omitted, or refused. Throughout this experience, the role of the instructor was to guide, clarify, observe, and confirm information the student already had.

The simulated experience had several advantages over an experience in a real setting.

1. The student has no restraints on time. She or he could prepare and administer the drugs at her or his own pace. In a clinical setting, however, it is imperative that medications be administered at the correct time. Thus, a student who learns slowly or becomes interested in a particular aspect of the procedure and desires to focus on this in greater detail soon either detects that she or he is behind schedule or is reminded by others to hasten the preparations. The student may also be aware that if she or he is too far behind, the experience may be discontinued in order for patients to receive their medications at the correct hour. The student in such a situation cannot help but perhaps be more concerned with completing the experience than with learning all of the steps. The end result then becomes more important that the process.

2. The student can proceed with the assignment without interferences by the instructor or staff members. Frequently, when an instructor or staff member observes a student's actions to be awkward or in error, the student is not only told of this observation but is given helpful hints for further actions. In the simulated experience, however, because an error will not jeopardize anyone's safety, the instructor is less apt to interfere with the student's actions, thus permitting the student to identify the awkwardness, errors, etc. and to try out helpful hints which the instructor devises.

3. There is greater control over factors that interfere with learning. When a student adminsters medications in a clinical setting, she or he must deal with the patient's requests, behavior, and feelings. These cannot be ignored, however they do disrupt the learning process. In addition, there may be staff members or patient visitors with the patient at the time the student comes to administer the medications. This too contributes additional stress to the learning experience. In a real situation unpredicted events occur which may contradict information presented in class and reading assignments. The student may observe or even be asked to administer a medication for which the medical order has expired. The student, not having the theoretical background to understand the reasons for this action, may conclude that information learned in class is not useful in the clinical area. Rather than reinforcing class content the clinical experience here negates it.

4. All students can receive identical experiences. Some drugs require more knowledge and skill than others to be administered safely. If a student's experience includes a variety of drugs, some of which require additional nursing actions before they can be given, while another student's experience includes only those drugs that do not require additional nursing actions, then both students have not been given the same

learning opportunities and the expectations of each of these students in future medication experiences should be different. In the simulated experience, it was possible to select and form a group of drugs that best illustrated and reinforced theoretical content. By planning for the drugs the student was to administer, each student was assured of receiving the same learning opportunity. In addition, followup experiences were easier to plan.

5. The medication experience can be structured so the first experience is a very simple one, the second a bit more difficult, the third still more difficult, etc. In a simulated experience it is possible to structure the difficulty of the experience. The difficulty depends not only upon the drugs to be given but also upon the accuracy and completeness of the medication tickets and kardex being used, availability of medications, the patient's level of wellness, availablility of the physician, system used by the clinical facility to prepare and administer medications, equipment available, etc. In a clinical setting, even when one plans a simple medication experience, it does not necessarily always turn out that way. All things cannot be learned in one or two experiences and when the faculty identifies both the area to be learned and the sequence of the learning, a simulated experience can then be developed that proceeds from the simple to the complex.

6. The anxiety experienced by students prior to their first clinical experience in administering medications is reduced when they have a simulated experience. Students attach a great deal of importance to the task of administering medications. Their anxiety level is higher for the medication administration experience than for other nursing care experiences. After the simulated experience, the student has a clear idea of what to expect, has handled all the equipment needed for this procedure, and has tried out all the steps of the procedure. No doubt this familiarity contributes to the reduction of anxiety.

Simulation has some disadvantages, of course. Perhaps the biggest disadvantage is the time required to plan the experience, set up the simulated environment, and then implement the plan. It takes hours upon hours to gather materials currently being used in a clinical facility and to duplicate forms used. Much of this planning cannot be done too far in advance because products are often changed. When gathering the materials one must make frequent visits to the clinical facility and have the assistance of the staff members. The cost of the materials however is minimal. Once all the materials are gathered, there is no guarantee that they can be used at another time. If the clinical facility remains the same and their products remain the same, then only some replacements will be needed. In most instances, however, there will be a need for all new materials.

It is essential to have not only adequate space for a simulated experience but to have the space available throughout the entire college day. This eliminates the time-consuming task of having to reset the environment. In order to permit the students to use as much time as they need, additional space and supplies are needed. In this trial, one large room was used. For future experiences, it is felt that two rooms are needed. One would contain the medication cupboard and all items needed for the preparation of the medicines. The other room would contain the patients and be used only during the administration of the medications. An additional small area separate from the preparation and administration area is also needed so student and instructor can discuss the experience when it is concluded.

Because some aspects of this experience require a student teacher ratio of 1:1, it is essential to have other faculty members willing to assist with the implementation of this experience. This means that a faculty member may spend an additional 10-15 hours per week for 2-3 weeks while this experience is being given to students.

Following this trial, it was evident that a simulated environment could be used to teach a technique commonly learned in a clinical setting. Although additional faculty hours were required to plan and implement a simulated experience, less time, supervision, and guidance was required by the students when they eventually administered medications in a clinical facility. Both students and faculty had positive feelings about the use of the simulated experience as a method of learning. It appeared that the quality of the learning was somewhat higher with the use of the simulated experience. In the future, this simulated experience will be refined and an attempt will be made to more precisely measure the quality of the learning and the cost of the simulation.

SCIENCE, MORALITY AND EVERYTHING ELSE

by Thomas W. Morrison
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Westchester Community College

How about a science course in which the topics are so treated as to lead directly to a moral issue?

How about a science course which seeks to influence attitudes as much as it does impart scientific facts?

How about a science course in which the impact of science in other areas -- in religion, in the military, in economics -- is crystalized and analyzed? And again leads to the formation of new attitudes and the making of moral judgments on the part of the students?

Science and Survival was designed to be such a course. It is currently being offered at Westchester Community College and the following analysis of its case history gives an idea of the course's success.

Why such a course? The author of the course and of this article is a veteran of many years of teaching science in the classroom to non-science majors. Others of a similar background might argue with him over the degree of indifference -- and even hostility -- toward science they have encountered in their teaching experiences. Few, he believes, would deny that the indifference and hostility is there. Or that it is a problem.

Science and Survival was conceived as a unique solution to the problem. However, science -- with all its concern for discovering the new -- is a highly tradition-bound discipline and so steps had to be taken to convince the College administration to offer an experimental course of the nature of Science and Survival. One of these steps was to survey over 40 colleges and universities to which most of our students transfer. The opening paragraphs of a form letter sent to them read:

> Westchester Community College plans to offer a new one-semester course, Science and Survival, this fall. We would appreciate knowing whether or not your institution would accept transfer credit for this course either as (1) satisfying, in part, your science requirements for non-science majors or (2) an elective. The course is for three credits (3 hrs.) and has no lab.
>
> Briefly, the course is designed to provide student with an opportunity to study one of the overriding problems of mankind today -- his own survival. The students do ask the big questions of our times. What is this conflict between man and nature all about? Is man destroying his environment? Is he destroying himself?
>
> In our new course the idea would be to study possible answers by studying science in its broadest terms -- in religion, in morality, in various doctrines and beliefs. Key questions of concern to one and all will be looked at. Does science hold the key to man's future? Is science a threat to free will? Is science the tool by which man may "conquer" his environment? Is science Human? Or Humane? Etc.

A form for replying was included and the results were tabulated. Science and Survival had no lab, the course could not be transferable for science credit to those colleges requiring science courses with labs. All colleges, however, accepted its transferability as an elective.

In addition, the Office for Community Colleges, the State University of New York, was queried about the course and this office envisioned "no problem in this (the course) being accepted as satisfactory toward the general education science requirement for non-science majors." The Office went on to note that "several colleges have recently introduced a non-laboratory course dealing with 'man and his environment' which has been viewed as adequate in meeting the liberal arts and science criteria in science by both the State University of New York and the State Education Department."

This and other data was presented to the College in a 30-page brochure entitled "Why a Course in Science and Survival." It so happened that the College itself was experimenting by offering, for the first time, a month-long intersession in January of '74. One of its purposes was to try out new and innovative courses. Science and Survival was one of the courses offered.

Sixteen students took the course. And so Science and Survival, previously a dream, became a reality. And with that transformation came the problems of reality. One of the basic reasons for conceiving of such a course was to influence student attitudes toward science. But how can it be known that attitudes of students who took the course really changed? My opinion, as the instructor, hardly seemed convincing. A more sophisticated way had to be found and so it was decided to survey student attitudes before as well as after the course. The plan was to compare the two and see directly any changes in attitudes.

The double survey -- with the emphasis on attitudes -- was, I felt, unique for a science course. Traditionally, science examinations tend to measure factual knowledge. A student either knows, or does not know, the formula for water. He may even be tested on what pollution is, or is not. What examinations often do not reflect is how the student feels about pollution. More specifically, examinations do not reflect in what way students feel differently as a consequence of having studied pollution.

On a personal level the author himself can vouch for the fact that of the many, many science courses he has had, both as an undergraduate and graduate student, he has never encountered such a survey.

The Survey. On the first day of class the students were given a 11-page questionnaire to complete. (If this seems a bit lengthy, one reason for a long questionnaire was to ask the students, after having taken the course, the same questions. The assumption here was that the more material given to the students, the less likely they would remember how they originally answered. They can't remember and the response will be fresh --and possibly reflect a change in attitude!)

For the first part of the questionnaire the students merely had to check statements which they felt "aptly express" their own feelings. The two statements in which the most students changed their minds were:

> We can stop pollution on a voluntary basis
>
> I love my country deeply and care about it very much

The two statements in which the greatest number of students did not change their minds were:

> I'm really worried about pollution
>
> Within feasibility, we Americans can do virtually anything if we make up our minds

It should be noted that if a student did not check a statement at all, the statement did not aptly express their own feeling. Not a student, for example, checked "I can't change the world, so why bother about it." On the other hand, 25 percent of them checked "America is a sick country", "American is the greatest country in the world", "the whole world is sick" and "the energy crisis will come and go and life will continue to go on pretty much as it always has."

Altogether, 33 responses or 58 percent indicated a different feeling.

Probing Deeper. The more extensive part of the survey of attitudes asked the student to check (1) agree, (2) disagree, (3) no opinion, (4) don't understand the questions, (5) reservation. The statements or beliefs -- 75 of them -- were meant to be on a more sophisticated level. Some of the beliefs on which the fewest sutdents (2 or less) changed their minds were:

> Man is superior to nature
>
> Scientists should consider the ethical and moral aspects of biological and chemical research for the purposes of warfare before engaging in it (the students unanimously checked "agreed")
>
> Americans place a premium on the making of a profit in their economic life

Two other beliefs in which little or no change occurred were:

> Any method of warfare in which fewer men die is, ethically and morally, the best method
>
> The standard of living in the U.S. is not related to the population problem (the students unanimously checked "disagreed")

Beliefs in which all but a few (2 or less) did change their minds were:

> Ever since the U.S.A. has been a nation, the military and scientific communities of this country have been working together to build the U.S.A. into an ever more powerful military machine
>
> An individual loses his right to breed and he loses a part of his freedom
>
> The U.S.A. is overpopulated
>
> We can never solve our environmental problems as long as the lower classes want as much worldly goods as the middle classes have and the middle classes try to be as wealthy as the upper classes

The 75 statements in this part of the questionnaire centered on material covered in the course.

Moreover, some of the statements are obviously controversial while others are scarcely so.

On the more controversial statements, we might reasonably expect some students to change their minds, after the course, and move from one column to another (from, for example, agree to disagree or reservations and vice versa).

On the more matter-of-fact statements, where students, before the course, had scattered checks in all columns, we might also reasonably expect most of the students to check one and the same column after having had the course. For example, five out of six students changed their minds and agreed that:

> Plastics are almost completely immune to biological decomposition (rotting by bacteria)

Perhaps the most dramatic evidence of change occurred where students, after the course, tended to move into one column (and consequently tended to become unanimous in their attitudes) on controversial issues. This may well be where the course had its greatest impact.

For example, science and religion was one of the areas of the course. The students remained divided on the belief that "man is made in God's image" (five students did change their minds). But the following two beliefs all but two agreed:

> Christianity is the most anthropocentric (man-centered) religion the world has seen

To reach this agreement all but three had to change their minds.

In the other dramatic change in this area (science and religion) six students agreed that:

> We shall continue to have a worsening of the ecological crisis until we stop believing in certain Christian axioms

None before had agreed to this.

Science and the Military. This was another area of the course. A similar dramatic change in attitudes appears to have occurred here, too. For example, to the belief:

> The scientitic community in the U.S.A. has always been, characteristically, a closed society in which secrecy was its hallmark

nine students disagreed. Seven of these were the result of changes of the mind. (Secrecy is, for obvious reasons, a hallmark of the military. That many students should also believe it to be a hallmark of science is really not surprising, either. Isn't that the popular image the movies foster; i.e., the mad scientist concocting secret formulas for evil ends?

To summarize all 75 statements, the students checked the same belief 326 times the second time around. 363 were different. In terms of percentage, students indicated a different feeling 53 percent of the time.

A Second Brochure. Upon completion of the trail-run in the January mini-session, the data from the student questionnaire on attitudes -- plus data from a standard evaluation of the course and its instructor — was assembled in a second 30-page brochure entitled "Why Offer Science and Survival Again?" This, too, was forwarded to the college administration, this time with the purpose in mind of convincing the College of make Science and Survival one of its regularly-offered courses.

It has now reached that stature with two sections or classes currently being offered — one in the day and the other in the evening.

However, comprehensive analyses of changes in student attitudes, such as was conducted when Science and Survival was first offered, are not currently being made. Nevertheless, the course has grown steadily and in the spring semester of '77 reached the stature, for the first time, of those courses having had to be closed at registration because maximum capacity (some 35 students, a figure set by the College) had been reached. Even more significant is the number of students who drop a course after registering for it and attending one or more classes. The attrition rate for Science and Survival was zero (no drop outs) for the spring '77 night class. (The day class met with almost equal success -- it was also filled to capacity, but as I recall there were two or three dropouts).

Because of the nature of the course, achieving this degree of success has not been easy or automatic. The course content and approach is unique. It may be presumed, for example, that students more frequently argue points in class in those courses which are in the same field in which they are majoring. Most Science and Survival students are not science majors; being, rather, business majors, etc. How many of these students ever argue a point on the origin of the wind or the glacier in an earth science class? For them it's virtually all note-taking. On the other hand, arguments in Science and Survival erupt frequently and, for the instructor, become fascinating when the students begin battling over points amongst themselves. (No head-nodders in these classes). Still, because of the course's title is not self-explanatory, the course, up to this point in time, has had to have been advertised continually. It is easier to tell people what the course is not about -- it is not about how to survive an atomic bomb attack -- than it is to explain what the course is about.

Another Interdisciplinary Course. In 1975 an interdisciplinary science course, The Ascent of Man, was given on television across the nation (Channel 13 in the New York City area). It was billed as an "intellectual history, tracing the major events in the biological land cultural evolution of homosapiens." Westchester was one of the institutions which simultaneously held classes on campus and offered credit for the course. (When it was originally offered, I was responsible for coordinating our class meetings with the 13 films the students watched weekly on television off-campus.)

A student evaluation of this course showed a high degree -- for a science course for non-science majors an astonishing degree -- of success. I have rarely heard so much praise from students over a science course.

Science and Survival is a similar course, but with a difference. The flavor of The Ascent of Man is always an optimistic outlook. Man is still ascending. The flavor of Science and Survival always strives to be realistic. (The truth is, at times, discouraging, does hurt and the case for "The Descent of Man" can no longer be ignored. Descent, not ascent, may be today's reality.)

A Personal Note. Science and Survival may sound to some like a social science course with little of the content of courses in the natural sciences (little in the way of science prinicples, theories, observations, etc.) Content is taught at every turn. Newton's law of gravity and his laws of motion, as well as Mendel's principles of genetics, are analyzed and studied. But Science and Survival does not stop there. What, for example, has been the impact of the work of these two men on, for example, religion -- and Christianity in particular? Do we see any evidance of this impact in the way today's Christians see the world? (A *New York Times* story entitled "Christianity Linked to Pollution" is one of many articles that compose an ever-changing "selected readings" list used in the course in place of one standard textbook.)

In short, what is needed, the author believes, are courses that attempt to pull everything together. A student who becomes knowledgable in scientific theory but has little perspective into other worlds and disciplines is little more than a robot in action. That student epitomizes the difference between knowledge and wisdom and may be the very cause and reason he or she and other students may not survive.

INNOVATIVE USES FOR MEDIA IN THE CLASSROOM

by Sivia Kaye
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My initial involvement with media stemmed from the obvious diminution of a component which had long been present in our student bodies: MOTIVATION. Because attending college classes had never been mandated by law, it had always been thought that a student's physical presence in a classroom indicated his or her motivation to learn.

In recent years, however, many students from disadvantaged backgrounds have been lured into attaining a college degree. Exactly why, is not clear -- even to themselves. An instructor exploring their reasons for attending college will elicit from them merely that they need the degree to "get a good job." Rarely, if ever, is heard the responses that the "traditional" college student would have given: that of probing ancient cultures, that of learning what makes a symphony structurally hold together, that of exploring the artistic and literary forms of Rennaissance Europe.

Today's college student -- particularly those attending the two-year college, and more especially those coming from a disadvantaged socio-economic background -- is in our classrooms for one reason: to get a degree and then to "get a good job." The student looks at the degree as a union card, and not as a portal which has opened to the excitement of learning.

With this in mind, we can see that the non-traditional student lacks the traditional motivation. His or her academic deficiencies can almost always be traced to attitude. As college professors, we must realize that our own success in the classroom is directly related to student motivation. Our efforts must be aimed at restoring the motivation to learn which we knew as students.

I have found that the inclusion of media in my classroom methodology measureably heightens student interest and correspondingly increases their participation. The media applications with which this article deals were developed for use in English courses. However, professors of other disciplines can apply these principles to their own subjects.

Media used in teaching English falls into two distinct categories. The first is produced by the instructor with student input. This category includes radio and TV workshops, student publications, acetate overlays, and cassette recorded criticism. The second is produced by neither the course instructor nor his pupils. Outside assignments such as films, TV shows, magazine articles, taped lectures and recordings fall into this group.

The first of these two categories is most successful in sparking student interest. For instance, a radio workshop discussing Robert Browning's view of women commands student preparation and enthusiasm far more than a classroom discussion of the same subject: the radio program will be aired, thus providing them with a tangible result for their efforts.

The aim of the radio-workshop is to have an in-depth discussion of one small aspect of the course. Only a few students are asked to participate. For the Browning broadcast, five students were chosen. Each selected several of the poet's works to analyze in detail, and read about the status of women in Browning's day. They then drew conclusions about his view of women, and cited passages from some of his poems to support their claims.

Frequent out-of-class meetings were held at which differing views on Browning were presented. The students decided by consensus who would read which poem, and who would espouse which view on the air. The result of these discussions and the weeks of preparation were two half-hour programs on Robert Browning's view of women. The tape was later used in other classes, and during other semesters when the discussion of Browning's poetry was part of the syllabus.

Although designed for use in a literature class, the radio workshop's applicability to any course that involves student debate and discussion, is clear.

Another radio format with which I experimented is a broadcast counterpart of the creative writing magazine. Here, the interpretive talents of students in speech courses enhance the written efforts of students in creative writing classes. The sharing of skills among departments is not new; art students are often asked to contribute to literary publications.

The aims of this venture are twofold: to blend two disciplines, writing and speech, with the intended result of one highly polished end product, and to enable students in one discipline to appreciate the talents of the other. Students are notorious for thinking in compartments, and any activity which demonstrates the interrelatedness of course material is worthwhile.

The execution of this broadcast magazine was fairly complicated; organization and record-keeping were essential but the results proved the effort worthwhile.

The Creative Writing class submitted writing assignments in duplicate to their instructor, who forwarded one set of these manuscripts to the Speech teacher. He, in turn, assigned several of his students to regularly go to the college radio station and record these manuscripts. These students were given some instruction in interpretation by their Speech teacher. (Often he accepted these radio tapings in lieu of a term project.) An entire semester netted two hours of interpretive readings on tape. The Creative Writing teacher then listened critically to the taped readings, and selected the best; the others were relegated to the wastebasket.

The result was five separate twenty-minute taped radio shows, which the students and their families were able to hear in their homes. The final broadcasts delighted both the writers, who were incredulous at hearing their works over the airwaves, and the readers, whose names were announced before each piece that they read. It showed the students within each discipline that their respective talents could be combined towards a greater end.

Encouraged by the success of the radio programs, I decided to try a similar project, this time utilizing video tape.

Television was a medium with which we all had great familiarity but little practical understanding. By gearing our creative efforts toward the production of a TV tape, we added interest to the monotonous routine of write-evaluate-rewrite. Each student was asked to "translate" on to video tape one of his own written works. In the fifth week of the semester, the class met in the campus television studio with the Production Supervisor. There, it learned about the materials that would be needed to complete the assignment. They were instructed to return to the TV studio within a week, each with selections for visual and musical accompaniment. These were evaluated by the TV producer, who then arranged a separate taping session with each student.

The resulting video tape evoked much pride when viewed by the class. It has also been used in subsequent Creative Writing classes to encourage students who were intimidated at the prospect of writing for TV.

The worth of student publications in motivating good writing has long been recognized, so I'll not dwell on it here. The student's desire to write, and to write well, is greatly increased when he or she knows that the best of what is written will be published. The student finally sees the reason for proofreading work, to insert commas and other such miscellaneous notations where appropriate. He or she is somehow convinced that mechanics are important in publication, if not in personal submissions to the instructor.

And, of course, students enjoy the special bathing of their egos, experienced only by those who see their names in print. Some students get so hooked on this that they continue to make submissions of original manuscripts long after they are out of that instructor's class.

Specialized publications encourage students to write on a specific subject; for example, I've had great success with a feminist magazine. Many college women were prompted by their commitment to the women's movement to submit book reviews, original prose and poetry, news analyses, and essays -- all with a feminist slant.

To promote the learning processes of non-motivated students, immediate positive reinforcement is essential. An overhead projector stationed in the classroom provides the opportunity for such reinforcement.

At the start of the semester, every student was given an 8½ x 11 acetate paper, and was instructed to bring it to each class. After each new rhetorical device was taught, the students were asked to incorporate that construction in a sentence. This was to be written on their acetate sheets.

The sheets were then passed to the front of the room, and placed on the overhead projector for group analysis of errors or for reinforcement of correct application.

The advantage of this method over homework assignments was that validation of student effort was immediate. Acetate was an improvement over the blackboard because the class did not sit idly by while a few students wrote their examples on the board. The acetate sheets were used by the class simultaneously. The teacher was then able to provide critical comments for every student's work within ten minutes.

This technique is ideal for use in the teaching of foreign language. Here it can serve the same reinforcement-correction function for grammatical structures that it does for English rhetorical devices. Furthermore, its qualities of simultaneous class use and instant review also give it potential application to the hard sciences. After the students have solved a problem on the acetate, their different approaches may be quickly evaluated. A pattern of errors will quickly emerge, which the teacher can correct immediately.

Another innovative application of electronic media can effectively displace the legendary red pen in marking student themes. Traditionally, the student bypasses the teacher's corrections and hunts for the grade, then disposes of the work in the nearest circular file.

But when themes are criticized on cassette tapes, the instructor is assured that the student hears the entire criticism. This is accomplished by deferring mention of the grade or special instructions for remedial homework until the end of the tape. Because he or she is media-oriented, the student prefers listening to a recorded evaluation rather than reading a written criticism.

The cassette is far more like a tutorial session with the student than is the red-marked theme. On the cassette, the instructor can add special words of praise, when deserved, and can speak in a relaxed, reassuring manner.

This method can only work if each student numbers the lines of the theme.

The instructor, armed with tape-recorder, cassettes, packet of themes, and bottle of Excedrin, sits down at the kitchen table, and records his or her criticism onto the tape. He or she may say: "On line 10, Frank, you used the word 'boring' to describe your French class. This is fine, but you give no indication of what has transpired to make that class boring. You must support all of your general remarks with specifics. For instance, does your French teacher talk in a monotone, use dated material, and tell stale jokes? If so, state this in your paper."

This comment, by the instructor, is far more meaningful to the student than the simple work "Vague," scribbled in the margin of the freshman's paper.

Each of these applications of media has met with success by the final arbitor of our profession: the community college student.

CONSTRUCTIVE GEOMETRY

by Shirley Stanley
Schenectady County Community College

and

Eugene Mozier
La Salle Institute, Troy

"What is happening to our math student today?" This is the most likely topic of your mathematics "teaching" journals today. As the tcpic continues to alarm the journals' readership there is always hope the underlying causes can be determined and solutions can be found. Twenty years ago "Modern Math" was thought to be the answer to the mathematics question and today, there are second thoughts about this solution. We are not so sure that "Modern Math" is all that bad. The confusion lies in which problem "Modern Math" is solving.

The problem facing us today is not the better math student but rather the larger segment of our students who happen to have difficulty in understanding any mathematics, and "Modern Math" has not made this any easier. Look around in your own institution and see how much has been done in the past twenty years to approach mathematics in an entirely different manner for the slower or disinterested student. What has been done to find the reason why so many more students today have been "turned off" by mathematics? The need still exists for all students to have a better relationship with math in general, but the remedy is being prepared for and applied to that group of students who really do not need it.

Probably the "forgotton sister," the most neglected phase of mathematics, is plane geometry. And this may be rightly so. What other part of your mathematics education was so formal? Where did you meet your first stumbling block in mathematics? Try a small informal survey of your own. Ask a good cross section of present and past students this last question. The single most troublesome high school subject was geometry. We actually conducted such a survey of the person on the street, in the elevator, in the office, in the shop and especially in the school, and the results were overwhelmingly in "favor" of geometry. The statistics of our survey (confidence interval estimates of proportions for the various groups) may bore you, but the fact remains that this very large group does exist and was therefore the point we chose as the starting place in doing something about correcting our "mathematics problem."

Like a good football coach who selects a good offensive team to work on, we selected a most offensive subject to tackle. Our approach to teaching the basic Euclidean concepts is aggressive, it is different, and most importantly, it is so simple everyone will ask, "Why wasn't that done earlier?" Now, at last, something is being done about this breakdown in mathematics education, and we are doing it through "Constructive Geometry." Not only does "Constructive Geometry" meet the needs of this very large category of high school students we have just identified, but it also satisfies a great need we are currently seeing develop on the two-year college scene.

A growing number of high school graduates who have not studied mathematics beyond elementary algebra or who have failed plane geometry are deciding to pursue a college program. Because of their deficiencies in mathematics they will have to opt for certain certificates or associate degrees, or they may concentrate on work in the developmental area which will open many more doors for them. Within SUNY alone students at two-year colleges may choose from well over 80 programs leading to applied science or occupational studies degrees in addition to a growing number of certificate programs. Many of these programs presuppose a practical knowledge of geometry to meet mathematics requirements for entrance to the program or completion of it. Yet a perusal of the catalogs shows a definite lack of course listings which include this subject matter. Various responses to this noticeable void seem to be saying that any necessary geometric concepts can be interspersed throughout the curriculum; this idea of fragmentation can only reduce the probability of success for at most marginal students.

Community colleges in striving to fulfill their defined roles also serve many nontraditional students such as the educationally and economically disadvantaged, the professionals and skilled workers who study part-time to become more competent and thus more competitive on the job market, and the senior citizen or high school dropout who is taking advantage of a second chance. These newly committed students in reaching for a satisfying educational goal are still very much hung up on old anxieties regarding mathematics. It is now time for them to remedy their situation by truly experiencing (discovering and understanding) fundamental geometric concepts and problem solving skills, not merely being exposed to a watered-down less rigorous course than the one they avoided or failed in high school. "Constructive Geometry" was designed for this purpose and for the mathematically immature student at either the high school or college level; not for the student capable of learning plane geometry via traditional methods.

The bold nontraditional approach by "Constructive Geometry" of relying heavily on inductive reasoning rather than deductive reasoning enchants students while developing necessary concepts and skills. The liberties we have taken in our program are deliberately radical in order to remove any negative attitudes or mental blocks toward mathematics (geometry in particular) possessed by the student. Despite being bold and radical our program has been founded on previously proven good pedagogical practices. While most concepts are arrived at via construction, observation and comparison of measurements, we do employ deductive reasoning in some instances where measurements cannot be readily implemented to convey the desired conclusion.

The "Constructive Geometry" program has been in use at our respective institutions since 1973 and was formally tested in a pilot program throughout New York State in 1975-76. The high schools participating in the pilot program represented a broad socio-economic range of needs and included parochial, private, inner-city, vocational, suburban, military and centralized schools. In each school the classes involved were a deliberate selection of generally slow (most unlikely to succeed) students having problems in other areas in addition to mathematics. The performance of each class was followed and compared with classes of similar ability in watered-down traditional courses. The results of a Mann-Whitney Wilcoxen test showed the median score earned on a set of geometric problems of varying difficulty by the students who had completed the "Constructive Geometry" program to be significantly higher than the median score earned on the same set of problems by students of similar ability who completed a slow-paced traditional course. This program, both during and since its pilot test, has been accredited with providing a motivational stimulus to students' desires to continue studying more advanced mathematics. Attitudinal changes toward mathematics as appraised by teachers in the pilot project included: timid to aggressive, indifference to active participation, uninterested and disorganized to competitive, precise and neat. At SCCC where "Constructive Geometry" is the program used for Basic Math III, a study of the success rate since Spring 1975 for both full time day and continuing education students shows 89.4% passing, 70% of the successful students enrolled in more advanced math courses, 32% of the successful students have completed degree requirements while 50% were not matriculated in a program. At La Salle Institute a study which followed sophomores who had achieved success in our program through their junior year showed even better grades in their eleventh year math and an unexpected improvement in English grades.

What follows is a summary of the features of our program together with some of the techniques and mechanics which have inspired students of ages thirteen to seventy to become part of a learning experience.

Materials - The workbook through which the program is accomplished, a compass, a metric scaled straightedge and a protractor. The protractor is used only in beginning lessons to give students a sense of relative angle size: later lessons require either construction of specific angles or comparsion of angle size with compass. The metric units allow for an accuracy of linear measures to within one millimeter and eliminates the need for fractions. The workbook format of this program permits the utilization of inductive reasoning in arriving at the desired conclusions. Students remove a page (virtually every page is a separate lesson) for the purposes of construction, group discussion and teacher examination, following which the page is returned to its proper position in the book to allow for sequential building of the program.

Simplicity - One-line, one-thought instructions enable all students, even those who may have reading problems, to construct the geometric figures necessary to discover each concept. No cartoons or gimmicks are used to demean either the subject matter or the student's self-concept. From a single point or line segment a figure evolves. If the figures fail to conform with others in the group, then the error is immediately repairable.

Three Basic Constructions - Every concept can be developed through the three basic constructions of 1) perpendicularity (this includes the perpendicular bisector of a line segment, erecting a perpendicular at a point in a line and dropping a perpendicular from a point to a line) 2) angle congruency, 3) angle bisection. Considerable early drill in these constructions is mandatory. Congruency of angles leads to addition (subtraction) of angles. Thus the student acquires the facility of construct complementary and supplementary angles as well as multiples of 30 degrees and 45 degrees.

Lesson Format - Geometric symbols and definitions are introduced whenever they are needed. Students are encouraged to express observations concerning the constructions in their own words. They are then guided to the general statement of the concept being developed (in fact, a theorem). A summary page is provided at the end of each section of related concepts. The summary page contains all of the new vocabulary, symbols and concepts encountered in the preceding section. (A teacher's guide containing objectives for each lesson and recommended summary pages has been prepared to accompany the program.) Many lessons are in the form of problem pages; it is here that the immediate past developed principle is applied and also where the converse or inverse of a principle is demonstrated.

Completeness - "Constructive Geometry" contains a continuity of concepts that begins with congruency of triangles and treats every major and some minor theorems of plane geometry through loci and coordinate geometry. The material in each section is sequentially ordered so that each construction made by the student leads directly to the next principle. The students can therefore refer to previously developed concepts to assist in the development of the current concept.

Bilingual Format - The workbook arrangement of "Constructive Geometry" made it readily adaptable to a unique line by line presentation in English and Spanish rather than the page by page translation used in bilingual tests. Both Hispanic and English-speaking students easily identify new words in their second language. (A projection by the federal government regarding the growth of our Hispanic population and the nearly complete absence of Hispanic students in geometry classrooms prompted this undertaking.) Sample lessons are available from the authors.

Although "Constructive Geometry" is being used more widely at the high school level (at present over 50 high schools in the United States, Canada and Mexico are working with the program) nearly a dozen two and four-year colleges are presently teaching the program or planning for its implementation in career and/or developmental areas as well as in methods courses. The workshops we have presented at two year institutions and mathematics meetings have stirred considerable interest. One such talk was at the Seaway Section of the Mathematical Association of America's meeting in Binghamton, (Fall, 1976) and we plan to address both the American Mathematical Association of Two-Year Colleges' national convention in Atlanta and the National Council of Teachers of Mathematics two-year college section in Omaha during the 1977-78 academic year.

Because this program has been a response to the needs of the students we teach and because our respective institutions allow for and support innovative programs, "Constructive Geometry" has its feet firmly planted. Programs designed for that group of students we have decided to help cannot merely become effective because good educators believe they will. Much classroom testing--actually observing methods that frustrate and techniques that fail--and having immediate feedback from students is most valuable. It is also vital that others in the teaching profession can make your methods work; in this respect our administrations have cooperated in every way. We hope that our work which was begun at a small private high school and a county community college will truly leave an imprint on mathematics education. And we further encourage any teacher or professor who is committed to a different way of presenting a particular subject to organize, formalize, and share it.

THE GARRISON APPROACH

by Ivan Smith and Sandra Engel
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In recent years most comments about the writing ability of community college students and graduates have been overwhelmingly negative. English teachers at the colleges despair at the poor quality of writing their students produce. Employers of graduates point out that, despite courses designed to improve writing skills, college graduates still do not write well enough to communicate effectively.

The problem is complex. There are many fundamental questions involving the nature of writing, the needs of the student, and the demands that society will make on its members. Assuming however, that this dismal outlook on student writing and the teaching of writing is to some degree true, one response of college English teachers is to change the process of teaching writing so that the results will not be as gloomy as they seem presently.

One approach to increasing the effectiveness of teaching writing, an approach adopted by the two authors and used in our classes at Mohawk Valley Community College, is named after Roger H. Garrison, who has been a dominant figure in developing and promoting it. Garrison has combined his conclusions about writing, drawn from his professional writing background, with his experience as a classroom teacher of English. The result of this synthesis is an approach which suggests that much of what occurs in most college writing courses grows out of institutional concerns, such as enrollment figures and scheduling. These concerns can work counter to the main point of having the class--to teach students to write. Garrison points out that most classes are textbook- and teacher-oriented and we, as teachers, are locked into teaching only about writing. Garrison would have it otherwise.

The focus of Garrison's approach, as it was utilized at M.V.C.C., is to shift the emphasis from class activities to individual activities--to create as much time in a tutorial, one-to-one situation as possible. As Garrison has said: "A group (a class) has no writing problems; there are only individuals who have problems saying what they mean." This concept of individual attention suggests two major difficulties for most teachers who are considering the Garrison approach: first, what do I do during class if class activities are to be minimized?; foremost, where can I possibly find the time to deal with my students on an individual basis?

In order to implement one-to-one instruction, the fifty-minute all-class sessions are limited to the first two or three weeks of the course. Students and teacher get acquainted; students learn what is expected of them and how the methods in this course differ from the usual. The general course requirements and organization are set by the instructor. The basic skills of the course are introduced and the student is informed of the quality and quantity of work necessary to meet the course requirements. The specific activities of the course are determined by the student so that each is writing on topics that interest him or her personally. The student is involved in discovering a form to fit the content generated, as well as practicing writing skills at a pace which he or she sets. The pace may quicken or slacken; learning seldom occurs at an even rate.

After the first weeks, the teacher rarely meets formally with the entire class, and then usually for in-class writing or to work on a problem common to the whole group.

Based on the assumption that the tutorial relationship is the most effective in teaching writing, time is structured to allow for individual conferences. Since few class periods are devoted to full-class activities, individual conferences of five or ten minutes are scheduled with as many students as the instructor can see in the class time period. The remaining class members must be scheduled for conferences during mutually free hours. Using the conference system it is possible for the instructor to see each student at least once a week for about five or ten minutes. Thus, the Garrison approach is unusual in its use of time.

Conferences take different amounts of time with different students, for the students have different needs. But even a one-minute conference can be productive, because in a series of conferences the teacher has the opportunity to see a piece of student writing from its inception through its final draft. Also, in each conference the student and the teacher are looking for one problem at a time, the most important first. Is the writing specific? Is it organized? Does it have a point of view? What about spelling? The teacher considers the skill being emphasized and works with the student at the level which he or she is attempting to master. Once the student's problem is identified, the teacher suggests ways to reduce it.

Although it may be difficult at times, the teacher does not do the rewriting for the student. The writing and rewriting are the student's job. This kind of teaching is creative intervention in the student's work process at times and in ways that can be most immediately useful to the understanding of what he or she is doing. We believe that the quality of the time spent with a student is more important than the quantity of time, and that students profit from intensity of instruction. Therefore, the teacher's goal as editor, is to eliminate the instructor's job. The product--improved writing--is what matters in this course. The objectives can be accomplished best if the student takes responsibility for his or her writing within the environment the teacher creates, and learns self-instruction. The student must learn to manage his or her own time and work.

The class activities of this approach are also unusual. The teacher's homework in the Garrison approach is far more creative than grading a stack of essays. Instead, the teacher designs projects of varying difficulty to suit the student's individual writing needs. These projects should relate directly to the student's immediate experience and genuine interests, whatever they may be. For example, an assignment for a criminal justice student might be to describe accurately and in detail the scene of an accident to which he or she has been summoned as the investigating officer.

Ultimately the student's progress as manifested in the writing will be evaluated. We feel the only valid measurement of a student's learning in a writing course is actual performance at the end of the course. Writing skill develops slowly and with difficulty for some students, so early papers are not graded. The fewer punitive elements between the student and his or her writing there are, the better. Instead, when grading is necessary, students are asked to submit samples of what they consider their best work to date. Grades are based on present skill, not on the lack of skill the student had a month ago. We feel that averaging grades punishes the student for what is not known at the beginning of the course. However, a student can request a grade on any piece of work at any time, yet retain the option of writing without penalty.

Consistent with Roger Garrison's feeling that the approach ". . .has to be flexible enough to allow modification by each instructor," each of us implemented his or her own version of the Garrison approach during the fall quarter of 1976. Smith, using the Garrison approach for the first time, retained a traditional organization of the course according to mode. Each student was required to produce a piece of writing in each of five modes of discourse. Further, each was asked to choose two of these modes for more extensive writing. Activities in class were designed to focus on basic skills, and later in the course, on skills which needed more emphasis. For example, the first in-class writing exercise was set up to encourage specificity. This was accomplished by distributing pennies to each student and asking him or her to list as many specific details as possible about the penny. Discussion of the lists and movement toward increased specificity emphasized a basic skill for which the student was held responsible for the rest of the course.

Smith found the creation of individualized tasks the most difficult aspect of the approach. The development of a file of appropriate activities, both for writing tasks and for dealing with specific skill development, is a definite aid and reduces this burden over time. The most pleasant and rewarding dimension of the approach proved to be the conferences. The tutorial relationship enables the instructor to become involved in the process of writing at various stages and interact with the student in the act of writing. It also establishes an ideal climate for individualized instruction; whether the student needs help at the most fundamental level or has reached a fairly accomplished level, the time spent in conferences is directed to the student's level. The time spent in conferences, and two hours of conferences can exhaust the hardiest of teachers, is regained in the reduction of time spent in writing lengthy comments on student papers--much of the work has been done in the more congenial conferences.

Engel, on the other hand, had attempted less ambitious adaptations of the Garrison approach previously with smaller classes in a smaller school. Because of increased class size at M.V.C.C., logistic problems in scheduling conferences occasionally arose; however, the conferences with individual students allowed for exchange that would never have been possible otherwise. The conferences also allowed for dealing with the heterogeneity of interests and needs of students at M.V.C.C. Therefore, the larger the writing class, the more important the conferences.

The conferences were most valuable, especially initially, for what they seemed to accomplish affectively. In early conferences, many students assured Engel they could not write. They recounted their histories of failure in English. They believed English to be boring and irrelevant. Much of their writing supported their claims.

To deal with this, one of her goals in the course was to change the student's attitude. Not only was this a course in how to write, it was a course in gaining confidence in writing, in learning the value of writing. She had to prove to students that they could write. "I can't" was no longer an excuse. Treating writing as a process and withdrawing the constant threat of a poor grade encouraged this change in attitude. And by encouraging students to write on topics that interested them--topics distinctly non-literary such as seeing a friend off to boot camp, smuggling a kitten into a dorm, or watching Ratso the Human Pig eat spaghetti--the student found value in his or her ideas and some confidence in the ability to express them.

In addition to this intrinsic value in writing, writing is also extrinsically valuable. It is a survival skill in the world of business and industry. To this end Engel encouraged students to write about their curricula, to do the writing they thought relevant to their future jobs. Whatever specific job-related assignments she suggested, however, were on-the-spot oral suggestions; her resource file was notably slender except for individualized grammar handouts and brief writing samples to illustrate writing principles. But this bothered few students. "I study accounting and business in all my other classes. Why should I want to write about it here?" asked on student.

Similarly, on occasion Engel referred individual students to specific essays or recent magazine articles. But these occasions were rare, in part because the time required for conferences left little time for creation of detailed individual assignments. These referrals were deliberately rare also because she feared that constant reading of professionally-written essays would increase the student's frustration. Most students know they cannot write as well as E.B. White or George Orwell.

On the whole, our reaction was positive. We offer the following observations for others considering this approach. Because the course is technique- rather that subject-oriented, the first two weeks in the course are especially crucial in explaining the approach to the students. The student must know that the teacher is willing to help, but that he or she must take responsibility for the writing and its progress.

In conjunction with this, we found that writing during class time (writing workshop) is very important, if only because it focuses students on the work they have to do.

Freshmen are not used to managing their time, to pacing their work, and the quarter may be over before they adjust. So the habit of writing rather than regular deadlines seems important.

Once the *modus operandi* of the course was established, students seemed to enjoy the course, especially the conferences. Most of the students said they found the conferences helpful in improving their writing. When asked, students generally agreed that they preferred the individualized tasks based on their interests rather than assigned topics for the whole class. This was true whether the task was determined by the modal organization of the course or solely by individual interest. In each of our classes the student had the opportunity to revise without stigma. For many writing was indeed a process. Students indicated that they thought they were better writers as a result of the course.

In general the students enjoyed the course and would recommend it to another student, but with some qualifications. Some students felt that the relative freedom of the approach demanded more individual responsibility than they were used to. They missed the security of meeting as a group for three class hours a week during which everyone participated in the same group activity. They also missed the emphasis on a text and lecture notes as the basis for the course.

As teachers using our versions of the Garrison approach, we still have questions about using it. In a conference with a student it is sometimes difficult to say something appropriate. How much praise or criticism is optimum in each conference? It can be difficult to criticize a student's paper, especially if the student is trying to write well but is not succeeding. This is compounded by the student's presence and his or her anxiety about the instructor's reactions to the work. Another question concerns the role of a text or other materials in this approach. How much use of professionally written essays is desirable? Also, what problems are entailed in initiating and continuing such an approach within the framework of the existing institution?

The teacher must be versatile to meet the needs of his or her varied audience, and we have found the Garrison approach provides us the maximum degree of freedom for interaction between student and instructor.

All quotations are from Roger H. Garrison, "One-to-One: Tutorial Instruction in Freshman Composition," reprinted from "Implementing Innovative Instruction," *New Directions for Community Colleges*, Vol. II, No. 1, Spring 1974.

A COLLEGE COURSE ABOUT ME

by Jack Dumas, Marjorie K. Raab and John Spiegel
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Bob, an 18-year old first year college student, had come to the Counseling Office to discuss a variety of concerns. Feeling frustrated with his lack of direction and achievement, this earnest but confused young man came to a tentative conclusion: "I think I'm getting the wrong kind of education. I'm learning a lot of facts about a lot of things but nothing about myself."

Bob's comment made me think of a particular course we teach at Nassau Community College aimed at just that - at helping students to learn directly about themselves.

COURSE COMPONENTS

S.P.S. 101, a 3-credit course taught by counselors of the Department of Student Personnel Services, is what we describe as an umbrella-concept course. Under one cover, S.P.S. 101: Introduction to Personal Development includes four units aimed at helping the student gain greater self-insight and personal direction. The first unit, "Basic Awareness", is the core from which all students then choose two other units from the following: "Creativity," "Making Career Decisions" or "Getting Along with Parents."

Contrasting Bob's feelings were comments from students who participated in the course.

Carol, a sophomore, stated that ". . .getting in touch with my strengths and looking at my values were best. . .I wish I had taken this course as a freshman."

Alan, an auto and van freak, believed that ". . .the family unit was most beneficial because I found it most applicable for present usage."

Taciturn Julie summed up her learning experience, "I learned that I'm OK, if not even better than that."

More outwardly reactive was Bo's, "It's a turn on. It really is! I guess I knew most of these things about myself but it really feels good - a warm glow - to have all this information about me put into focus and discussed with you and the other students. I feel stronger and better about me."

BASIC AWARENESS UNIT - Required

Bo's reaction referred to the "Basic Awareness" unit of the course. What Bo experienced was based on programmed materials devised in Chicago's Achievement Motivation programs, and popularized in our area by Dr. Lila Swell's course, "Educating for Success!", at Queens College, City University of New York. Bo's experiences included the listing of personal successes (not necessarily outstanding) and the reasons why Bo considered them to have been successes. At first some people find it difficult to identify, list and share their successes even in small groups. However, once they understand that their criteria for success is of utmost importance, they become more open in sharing. From the success chart the group aids in the identification of the individual's strengths. Too, group members are encouraged to add strengths they believe the individual has from having been with him/her in or out of the class. Such strength bombardment often accounts for the "warm glow" that Bo mentioned. Certainly Betty, a forty-two year old mother of three, beamed and glowed when several students chimed in with Jim who said, "Betty, I think you have courage and some kind of strength - strongness - to come back to school after all these years, especially in the Day session with most of us kids. I admire you for it."

Armed with success patterns and personal strengths the students discuss their individual values. Through exercises they are encouraged to weigh their values, to make "public" statements about them and to summarize their presently identified values.

Finally, for the Basic Awareness Unit students are asked to act on their success patterns, their strengths and their values by setting personal goals. Such goals are processed by the student and the group in order to meet achievable criteria.

Jim's feeling about his experience in this unit was, "I have a good feeling about a lot of things I've done (in my life) and the planning for the future gives me more hope. In fact, I have lots of hopes now."

Not every student ends the course or even a particular unit with enthusiasm, nor are all the students' expectations realized.

MAKING CAREER DECISIONS - Elective

One student stated that he expected the "Making Career Decisions" unit to tell him what to major in and what to do when he "grew up." That didn't quite happen. "But", he wrote, "the Career Unit helped me to know how much I liked working with people in planning and setting up different programs. . .and travel and change are important to me now. The Career Library had some helpful stuff, too, about different jobs in the tourist business and hotel management." This student even now was not sure about what to do but he had arranged an appointment with an educational counselor to discuss various possibilities. Too, he was relieved to find that most of the other students in his unit group of 14 didn't have careers all "figured out."

Besides individual interest testing, ability assessment, a research career project and an introduction to sources of career and employment information, the student has an opportunity to hear how his/her tentative plans sound by hearing them in the small career unit group. Through case histories and interviews with people in various careers, students also get a handle on some theory of career decision making and some realities as well.

CREATIVITY DEVELOPMENT - Elective

"I didn't realize that there could be that many," said a surprised Joe after a class spontaneity exercise. The instructor had just asked students to invent as many different uses for a pen as they could think of with the caveat "No idea is too bizarre." "Window stop" and "sinker for a fish line" were two of the more unusual suggestions on Joe's list. "When you think about it there are a lot more possibilities than come to mind at first," he reflected.

Very much in this fashion the Creativity Development unit develops "expansion," or the ability to see more than is perceived at first glance.

Through the use of fantasy, another expansion technique, students are encouraged to tap into their own creative energies. After a particular fantasy involving a journey to a location and an environment of her own choosing, one student, Sue, responded, "I never let my feelings run free like that before. It was a little scary but also very exciting to go on a mind trip. I guess I don't really let myself think about the places I want to go and the things I want to do."

Student reactions are not always so positive or happy. After learning that his score on a "Dogmatism" testing instrument showed more rigidity than he had expected, Jeff said, "I still don't think I'm as rigid as that thing says I am, but I'll have to think about it." These students, possibly for the first time, have an opportunity to become aware of, and later to explore, blocks to their own creativity.

Another dimension of expression that is explored in this unit is one of shared effort. "Brainstorming" illustrates how many more ways a problem can be solved when people work together. Since the method does not permit evaluation of ideas until the idea output is completed, people feel less afraid of having their ideas rejected. This creates a climate of sharing; students are amazed at how many more ideas a group can generate once normal restrictions to ideas are removed.

"It's incredible how many ideas we came up with!" is a typical comment after a case study in which the students are asked to develop plans to increase attendance at campus events.

Class exercises put into practice the concepts of lateral thinking, divergent thinking and creativity training. Part of this training requires students to perform daily creative exercises as well as weekend exercises while this unit is in session.

HOW TO GET ALONG SUCCESSFULLY WITH PARENTS - Elective

For students on a commuter campus the unit on "Successfully Getting Along With Your Parents" is uniquely pertinent. "For the first time I felt what it is like to be a parent," said one student after an intense role play experience. The students were acting out a daughter's return home after curfew, each person having had an opportunity to function in the role of parent.

Of the varied techniques employed: discussion, value clarification exercises, "case studies," the students find role-playing the most exciting because it allows them to experience their parents' struggles "from the other person's shoes." The most difficult aspect of the experience for the students to deal with is the realization that as parents their values on how to raise children might be different from the ones they now hold for themselves.

This unit is characterized by a feeling of warm sharing among the students. The discussions are the most emotionally charged of all the units because the students are all directly experiencing the situations being discussed. "I'm surprised to learn that other people feel the same way I do," said Beverly after relaying a particularly painful conflict with her father over her boyfriend's religion. "It's very comforting to know that I'm not alone."

In addition to learning to understand their parent values, the students get a lot of help in clarifying their own. Case studies, "What would you do if. . . .?" and projective situations are offered. These help the students identify what is important to them.

The students' only complaint is that this unit, which meets for eight sessions is not long enough. The students feel that they don't have enough time to really take advantage of the openness that develops.

BACKGROUND

Several years ago it became evident to the counseling staff at Nassau that there was a need to reach out to more students -- not only in counseling offices on a one-to-one basis, but also through group experiences in the classroom. This need was reinforced by the positive response to a survey administered to 100 students. Responses from 80 of these students indicated an interest in a course that would integrate cognitive and affective learning experiences.

To develop the umbrella-concept course, counselors from various units of Student Personnel Services (student activities, educational counseling, the psychological counseling center, transfer, placement, and financial aid) responded enthusiastically to a request for help, and worked together as a team:

1) To write outlines for the four segments that would be included under the umbrella.
2) To create a climate that would encourage acceptance of a course which had both non-traditional content and a somewhat unusual format. At Nassau, new courses are approved first by a college-wide curriculum committee and then by the Academic Senate. New course proposals must contain a justification, general and specific course objectives, evidence of transferability. Also, any conflicts with other departments must be resolved. The Counselors who had worked on the proposal became deeply committed to the course's acceptance into the college's curriculum and became "crusaders" on its behalf to the rest

of the campus community. All of the above criteria for course acceptance were met. Not only were behavioral science departments convinced that there were no conflicts with existing courses, but they were shown how this course might stimulate interest in social and behavioral sciences.

3) To implement and teach the course. Available facilities had to be located, since more than one classroom per semester was needed. Guidelines within the SPS department were devised in order to determine priority of teaching assignments each semester.

4) To evaluate the course each semester.
   a) Student evaluation - a form has been administered for the three semesters the course has been taught. The positive responses greatly outnumber the negative.
   b) Faculty evaluation - because the course is team-taught by several counselors, meetings have been held each semester to discuss teaching techniques, grading practices, and current issues.

We have written this report because we believe that SPS 101, and courses of a similar nature that involve the student's self, do have an important place in today's college curricula. While we report student reactions in glowing terms, we really have not reached the best of all possible worlds. The opportunity for growth (resolving issues and problems that are course related) still remains. These are the challenges about which we have many hopes.

I FOUND IT AT THE MOVIES: A CINEMATIC APPROACH TO TEACHING WRITING SKILLS

by William V. Costanzo
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The title of Pauline Kael's book, I Lost it at the Movies, presumably refers, in a suggestive way, to her lost innocence. In this age of sexual experience and literary naivete, teachers of English might be inclined to borrow her phrase in lamenting an even greater loss: the violent assault upon English language skills perpetrated by the popular media. We hear a great deal today about the new generation and its reputation for visual literacy. At the same time, we read about declining reading and writing skills. There are surveys correlating the plunge in reading scores with booms in illustrated fiction, comparing time spent in the elementary schools with time consumed before the television tube, contrasting those who read the book with those who waited for the movie. Everywhere, we are made to see signs of a general demise of the printed word. And the untiring finger of accusation invariably points to the same culprits: television, comic books, the local movie house.

This was more or less the state of English when I began to teach Freshman Composition to community college students seven years ago. In preparation for the legendary struggle, I armed myself, as did many of my colleagues, with films. If it was true that my students had learned to compensate for their indifference or aversion to print by strengthening their grasp of non-verbal skills, why not begin where they were? Why not start with a medium in which they felt at home and draw them slowly out, step by measured step, into the unfamiliar country of English prose?

As appealing as this seemed, it soon became apparent that the desired effect was not accomplished by simply flooding them with movies. First, I quickly learned that a film is not assured of success just because it is not a book. There are poor films as well as good ones and the difference is important. Secondly, although the principle of novelty will have its way, an English class can grow as indifferent to seeing movies -- even good ones -- as to reading model essays. It is crucial to recognize the saturation point. Having taught courses in Film-making and Film Appreciation, I know that film students will greet an occasional reading or writing assignment with the same sigh of relief as composition students will give to the rare appearance of a 16mm projector in the English classroom. This points to truths that are both promising and cautionary: a change in medium, like any change in pace, can be welcomed for the sake of change, but by the same rule, any fresh approach can stagnate if it lacks a clear sense of direction. A third problem is discovering how to use films in the best way. I remember the first time I showed a movie in class. The film ran its length, the loose end flapped against the take-up reel, and we sat waiting in the dark. Half mesmerized by the entrancing flicker of motion pictures on the screen, I, too, sat waiting for the next event. It was some time before I realized that the general expectation was for me to turn on the lights and do something with the film. I did do something: I tried to use the film for all it was worth, but I'm not sure that I succeeded. There were major obstacles. One of these was the hypnotic effect which seems to lull the mind into passivity. Another was a general resistance to ruining the film by "taking it apart," as if any attempt to speak or write about it were a form of violence against the purity of our visual experience.

Afterwards, I learned that there were things to do with films, ways to follow up the images with verbal explorations of their meaning. One could use a film to provoke discussion on a topic or a point of view. One could select films that inspired interest in a book, as a stimulant to reading. One could choose a film for its power to evoke responses which in turn could be channeled into written forms. But this springboard theory of cinema seemed to have important limitations for the students. If it added novelty and energy to their assault on the language arts, it led them to the same old printed word without attending to the necessary language skills. If it motivated them to want to read and write, it failed to help improve their command of written English.

With these problems in mind, I began to look more closely at the cinematic process itself. I began to explore analogies between those skills involved in making films and those used in writing compositions. The notion that film is a language with its own grammar is nothing new. The early motion picture theorists, especially those like Eisenstein and Pudovkin, who concerned themselves with formulating principles of editing, were fond of analyzing cinematic syntax and the vocabulary of film. Each photographic image, or shot, they pointed out, has its own denotative and connotative values. Like words, shots are basic units of meaning which may be arranged in various ways to create different ideas and effects. As with sentences and paragraphs, shots may be combined into scenes and sequences to describe more complex relationships and to create larger meanings. These meanings and relationships are governed by conventions which develop like the rules of any verbal language; to read a film correctly, we must learn its basic grammar.

One advantage of introducing this analogy to students of English is that it provides a visual model which may be easier to see than traditional descriptions of the writing process. For someone who is comfortable with the heft of tools and with tangible products, it may help to think of oneself as a kind of camera operator and editor. The cameraperson records impressions much the way a writer may collect his or her thoughts, gather information or list feelings and sensory details. The purpose at this stage is to capture the heart of a subject, to select significant items from a random field of vision and to focus each detail into sharp relief. The editor proceeds through several stages. On the strength of his or her footage, the editor must single out a main idea and choose suitable material, as a writer makes selections from notes. Irrelevant and obscure footage, like inappropriate and ambiguous verbiage, must be sacrificed to the cutting room floor. From the surviving film, the editor makes a "rough cut", an approximate arrangement of his or her shots into an organized succession of images. Like the writer's outline, this is a temporary grouping; the pieces are taped rather than cemented together. Adjustments and revisions follow. Some images are discarded, some photographed anew. The sequence is altered; sections are lengthened or abbreviated. Then the fine cut is made, with special care given to transitions between one shot and another, between one scene and the next. This stage, corresponding to the final draft of a composition, also provides for certain adjustments to be made during the creation of the release print. Special effects, such as dissolves and wipes, are generally created on the optical bench by specialist rather than in the editor's cutting room. It is sometimes useful to compare this stage to a completed paper, stapled, typed and ready for submission, in order to stress how the author is responsible for all details of "mechanics" even if he or she doesn't do the typing himself.

By enabling my English students to conceive of the writing process in visual terms, these basic steps of film production proved to be convenient guidelines for producing papers. I soon found that there were ways to use these steps to shape the major units in a Freshman Composition course:

1. CLARITY: BRINGING THE SUBJECT INTO FOCUS. Since most freshman prose is descriptive, persuasive or expository, we looked for parallels to documentaries rather than to story films. I have never been quite convinced that a writer must know exactly what he or she wants to say before putting pen to paper. My own method is to jot down those impressions and ideas which seem to be related to the subject at hand and then to

develop them into something worth writing about. I like to think of writing as discovery -- initially as self-discovery -- and like many of my colleagues, I have experimented with written sketches of simple objects, actions, places and moods. Any documentary camera operator who comes to a subject without a shooting script will let his or her eye take in the broad field with all its random elements, then train the lens on those details which strike him or her as most significant. The cameraperson knows that he or she must later impose some personal pattern to communicate effectively, but for the moment, the main concern is to record the feel and flavor of the main event, making the impressions as distinct as possible. In writing sessions, we concentrate on finding the right word to describe each impression: the way an object looks, smells, tastes and feels or the way each gesture flows into a simple action. At this stage, the only written product is a list, roughly equivalent to the rushes or raw footage sent back from a film safari or a sports event.

If time and circumstance permit, it is a good idea to use a camera in class to explore the subject first. Even a novice soon learns how to use the different angles, lenses, speeds, movements and other variable features of the instrument to investigage, define and clarify the subject instead of merely recording its image. In the absence of a camera, certain films or sequences from films can demonstrate the explorative possibilities of motion pictures. For example, Pianissimo presents some lively and unusual views of the legendary pianola; Corrida Interdite undertakes a meticulous slow-motion study of the movements in bull fighting.

Comparing a photograhic study of an object with a written description can reveal some important affinities and differences between visual and verbal languages. For students who have been made to feel that there are impassable gulfs between their comfortable familiarity with non-verbal skills and the alien disciplines of writing, the comparsion helps to bridge the gaps. They begin to see English as an exploratory tool that can help put them in touch with their own powers of concentration and with their personal reactions to the things around them. They think of writing as an instrument that can be mastered, like a camera, if one learns to use it properly. For any subject, there is one camera angle, one lens, one lighting scheme that reveals it best. There is also one adjective that best describes its color, one simile that best delineates its shape. At the same time, students begin to recognize the limitations of each language. One image may be worth a thousand words for describing the shape and color of an apple, but a picture cannot easily tell how it smells or feels or tastes. A film may spotlight details with precision, but it is cumbersome for treating generalities. Whether it places a pen or a camera in his or her hand, this method gets the student actively engaged in the venture of exploring the outer world in terms of its effects. It leads the student to investigate a subject with the purpose of representing it in the clearest, freshest way. And it underscores the skills he or she needs to master the process.

2. UNITY: DISCOVERING A PATTERN. As writers, we cannot use all the words that occur to us when we confront a subject any more than a film editor can use every foot of film shot on location. The average ratio of footage taken for a motion picture to that used in the final version ranges from 5:1 to 10:1. For the next step, then, the writer must select a theme: a main idea, a dominant mood, a broad but single aspect of this subject. Reviewing his or her notes, the writer must discriminate between material that is relevant and that which is not; he or she must be willing to discard the repetitious and the ambiguous.

It is not accident that the movie industry and publishing houses use a common term for this procedure; editing for films involves the same fundamental skills as editing for print. The major principle is unity, and any exercise that trains students to see patterns in one medium will help to strengthen their command of the other. Again, the hands on approach to film is best because it makes the process physically distinct. Given a reel of random shots, a student will be able to practice the steps of pattern recognition, selection and elimination in a tangible way. Otherwise, there are many films to serve a similar purpose. I have used American Time Capsule (a chronological sequence of photographs from American history condensed into a minute of film) and The Great Society (a parade of American products to the tune of "Battle Humn of the Republic") with interesting results. Since these movies present no explicit themes, I ask my students to isolate one idea and list images from the film that could be used to develop that idea. It is worthwhile to try the same thing with a poem like Ginsberg's "America," which also first appears to be a random, and therefore "meaningless," sequence. With further opportunities for practice, readers and viewers become more skillful editors.

3. ORGANIZATION: CREATING ORDER. When the film editor has separated the good footage from the out-takes, he or she often numbers all shots and arranges them on pins above an editing bin. Writers who use note cards can achieve a comparable degree of flexibility, referring to an outline as a kind of editing script. Shots or cards can be removed or rearranged as the script takes shape. Then this skeletal arrangement is fleshed out into a rough draft. Shots are taped together into scenes and scenes become sequences much as notes develop into sentences and paragraphs.

To study the way a good film is constructed is to reveal or rediscover many of the traditional modes of organizing expository prose. For example, movie editing can lead a writing class to consider basic principles of logic. Documentaries that set out to prove a point strengthen their theses with supportive details: interviews, old photographs, shots of representative objects, actions and settings, occasional overviews and significant close-ups. An alert audience will be quick to judge whether the evidence is adequate, pertinent and reliable enough to make the point effectively. Whether a film sequence develops inductively or deductively is often easy to see. Does it begin with close-ups and widen the field of vision? Or does it start with an establishing shot, a broad view of the scene, and close in on particular details? There is a rough correlation between the way a film-maker moves between long shots and close-ups and a writer's method of relating generalities to specific instances.

Other strategies for organizing essays are employed by films. Chronological order is the most natural format for what is basically a linear progression of images, but many films which seem to follow the clock will reveal a second principle of unity upon closer scrutiny. The Sixties, a fifteen minute compilation of footage gathered from ten years of CBS newsreels, presents events in order of occurrence, but it imposes a dialectical structure on these incidents to reinforce its verbal motif: "you gotta be left or right." Condensed Cream of Beatles, which covers nearly the same historical span, also proceeds chronologically, but it uses the music and personalities of its four subjects to unify the disparate images of the sixties, and it is divided into the stages of growth through which the Beatles passed. Process analysis, a favorite strategy for the "how to" essay, is still the chief organizing principle of training and industrial films. A great deal can be learned by analysing films like Today's Newspaper and Steel Making Today. Probably the most effective method of giving form to film is the technique of comparison and contract. In the early days, Pudovkin, always the polemicist, spoke of "relational editing" for contrast, suggesting that a strong effect could be achieved by juxtaposing shots of starving workers with images of wealthy gluttons. This kind of cutting between two scenes which are remote in time or place but which contribute to a single concept or sensation is sometimes called cross cutting or parallel editing when it is prolonged. D. W. Griffith used it ot enliven his chase scenes and heighten suspense. Eisenstein employed it to stress the visual rhythms and poticial contrasts in his doctrinal histories. Today it still has impact in movies like The Navajo Way, a study of changes in Indian life over the last twenty years. Virtually any film, if viewed from the perspective of the editing bench, can give writers ideas about putting their papers into shape. If these ideas turn out to be the same formulas prescribed in English textbooks, so much the better, especially if the dosage is easier to take.

4. TRANSITIONS: EDITING FOR CONTINUITY. One scene in The Sixties shows a man with a package running up to the governor of Alabama, who is being chauffeured

away in a sleek limousine. "Here, I want you to have this," says the runner. "It's dynamite." Immediately, the film cuts to a shell exploding in Vietnam. A separate scene shows the face of John F. Kennedy delivering a speech which promises a man on the moon within the near future. His voice is drowned out by a sound which we take to be applause but which the next shot shows to be the clamor of a rocket taking off from Cape Canaveral. Both of these transitions are tricks of editing, but they are much more. By linking a threat of domestic violence to the war abroad and by confusing the sound of promise with the roar of results, the editor has made logical as well as visual and auditory connections: by manipulating individual shots, he has created larger meanings.

In recognizing that segments of film may be meaningfully joined, rather than merely spliced together, a writer can begin to see the value of transitional devices in organizing prose. As in English, certain transitional elements have developed into standard implements with fixed functions. Zooms, soft-focuses and flip frames, like such phrases as "in particular," "be that as it may" and "last but not least," can be thought of as signals that specify a logical relationship between what precedes and what follows. A flip frame will generally indicate a lapse in time or space -- the visual equivalent of "hours later" or "meanwhile, back at the ranch." A soft focus can introduce a flashback or a fantasy. We usually expect a zoom to lead us to an exciting detail: a hidden rifle or an unexpected face. It is often surprising to realize how many of these conventional devices we understand unconsciously and how important they can be if we are to read a film correctly. To avoid them in writing is to rob our prose of zest, variety and clarity; without smooth transitions, we are simply "splicing sentences."

5. MECHANICS: CONTROLLING EXPECTATION AND RESPONSE. The stage which many writers, not only Freshman English students, save for last, probably with some vague hope that they will never reach it, is generally referred to by the word "mechanics." If the term is used to cover a multitude of sins, it is sometimes attacked by teachers with religious fervor and resisted by students with a kind of vehement pride in being part of an immoral generation. The watchdogs of our declining culture have offered reasons for this grammatical degeneration, and of course they are right. Students have been exposed to too much grammar or too little. They fail because they fear the rules; they fail because they are indifferent. Our undergraduates have learned to think of syntax and diction as strict parental figures, slightly archaic, as their names suggest, whose rigid rules are to be stringently disobeyed if one is to be loyal to one's peers. Or they have come to think of the Error Free Paper as a supernal but unattainable goal, regarding their failure to master the one hundred spelling demons as a sure sign of their innate depravity.

Here, too, I believe that the analogy to film can help, though by no means is it a panacea. Just to recognize that movies have their grammatical side can help to narrow the generation gap. Consider a series of four images: a roaring cannon, an arrow striking a post, an archer releasing his arrow, a gaping hole in the wall. Essentially, the sequence illustrates a problem in syntax: the logical order of images. We normally anticipate a cause and effect relationship between consecutive shots. Something similar occurs when we write a misplaced modifier: "At the age of three, my mother drove me to Kentucky." We expect the initial phrase to modify the subject which immediately follow. If a scene or a sentence defies our expectations, the effect is comic or perplexing. Imagine a scene in which a plane takes off from New York for San Francisco. Our sense of film direction dictates that a view of the plane in flight should show it moving from right to left, in agreement with our mental image of the country. Failure by the film-maker to attend to matters of this kind can lead to faulty parallelism in editing and a bewildered audience. Written English, of course, has its own rules of agreement and parallel construction. The value of pointing out correspondences between the rules of cinema and print is to reaffirm the meaning of such rules. Students who are unaccustomed to taking movies seriously are often intrigued to find a code governing the language of film. And they are surprised to learn how painlessly they've learned the major rules. In the grammar of film, they sometimes see more easily that norms of usage, punctuation and syntax are not imposed arbitrarily from without but have gradually evolved. They see how rules are really conventions, agreements among those who speak a language to facilitate communication. They see how word order and punctuation marks are functions of meaning, signals to the reader, creators of expectation. This perspective, if encouraged, can lead an otherwise indifferent student back to the English handbook for another look.

Further exploration will uncover other principles of film mechanics. For example, some devices act like punctuation marks. A freeze frame is a kind of exclamation point, arresting one's attention and insisting on emotional impact. An iris or a closeup can single out a detail much the way a writer underlines a word or phrase. Fade outs, wipes, dissolves and flip frames signal varying degrees of pauses and spans in time, space or thought, in a manner not dissimilar to our use of commas, semi-colons and periods. Other techniques can be compared to a writer's use of diction. Think of Hollywood's ingenious ways of substituting conventional images for scenes which might be branded as obscene. Some of these have become serious film cliches; some are used for euphemistic comedy. The writer faces a similar challenge when he or she must choose from "making love," "copulation," "carnal knowledge" and "having it away." Images, like words, have connotations. One photograph says "cop," another "pig," a third "the officer in blue." Like words, these images owe their powers of suggesting meanings, whether positive or negative, formal or informal, partly to their cinematic history and partly to the impact of the images themselves.

Analogies between the grammar of film and written English can assist a student writer to meet the challenge of mechanics. Connections of this kind can encourage him or her to see the final stage of writing not as a refinement or a frantic hunt for errors but as an essential part of the creative writing process. They can help to take the fear and the indifference out of rules. And most of all, they can offer some assurance to the writer who is ill at ease with words that he or she has not been wasting time at the movies. The skills he or she has begun to acquire as a viewer, even unconsciously, can be developed and turned into tactics for commanding the printed word.

If it is true that writing good prose is much like making a good film it may be unwise to condemn the popular culture of our students. To be sure, the analogy between celluloid and print is largely a hypothesis and, like any assumption, it has its precarious as well as its promising sides. But its main value is in being a hypothesis: not a rigid formula, but a provisional relationship to develop and explore. The notion that films have somehow been a barrier between our students and their literary heritage may be partly true. But at the same time, I believe that there lies in the process of film-making itself a direct route to stronger reading and writing skills. Perhaps it is not really so ironic that this road to the language arts is to be found, of all places, at the movies.

THE HISTORY OF THE NATIVE AMERICAN

by R. J. Lenarcic
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I began teaching a course on the history of the American Indian seven years ago. At that time it was the only course of its kind on the two-year college level in New York State. Originally, my objectives in teaching the course were not unusual: to improve the student's awareness of the Native American's role in American history; to develop in the student a sensitivity to the unique problems affecting Native Americans today; to instill in the student an interest in the subject matter which would endure long after the course had ended and, relative to the above, to acquaint the student with the literature in the field.

Thus, during the first year of its existence, SS242, as it was catalogued, was a unique course with a traditional methodology taught by a man fired with a missionary zeal common to those whose conversion to a new way of thinking borders on the fanatical. In my case, my views in respect to American history had been changed drastically in the wake of reading several books on the topic of Native American history. As a result, I was bound and determined to re-educate my students concerning red-white relations in American history.

Seven years and several hundred students later, I remain committed to the goal of exposing my classes to the truth, as historians know it presently to be, with respect to Native American history. Generally, the means of communicating my knowledge likewise remain unchanged. However, during the course of the seven years, I added one objective to my course which I believe makes it unusual. I engage my students in extraneous-to-the-classroom projects which will in some way expand upon not only their own but the general public's understanding of the Native American's place in American history.

Over the years I came to realize that the classroom should not only be a place where information is disseminated. It is also a forum in which students are challenged to use their knowledge, creative abilities and enthusiasm to enable others to share in learning experiences. I had hoped that the sense of accomplishment resulting from what might be deemed altruistic pursuits would provide students with experiences they could use throughout their lives, whether or not they become involved in improving people's understanding of Native American history or the need to conserve our natural resources. Student cognizance of the fact that the classroom experience can be expanded upon once the semester ends became a secondary objective. The projects which follow were developed over the years in an effort to meet these objectives.

One of my earliest classes felt that a "real-life" experience would greatly augment the lectures and reading pertaining especially to contemporary Native American problems. As a result of a contact one of the students had with a family on the Onondaga Reservation near Nedrow, N.Y., a field trip was arranged. In addition to the experience of visiting a reservation and for many, seeing an Indian for the first time, the students were able to ask questions, the answers to which did not appear in their reading. From then on, the field trip became a regular occurrence, each visit having something new to offer.

Over the years, I developed a friendship with a great man, Chief Lloyd Elm, and as a result one of the classes participated in the unique experience of sitting in on a meeting of the Council of Chiefs at the historic meeting house on the reservation. Other classes have been the Chief's guest at various activities including the Green Corn Ceremony, held annually in August, and the Open House at The Onondaga Indian School. Also, the Chief has visited the College on several occasions, addressing himself with eloquence to the many problems presently effecting his people.

In these and other related ways, the classes over the years have been able to share experiences for which neither classroom activities nor textbook reading could substitute. Some of the classes engaged in fund-raising projects to help needy families on the reservation and this fall, funds are being raised to help establish a scholarship for a deserving reservation youth. The students involved felt the need to reciprocate for the kindness shown to them by Chief Elm and others.

Three years ago, a class undertook a research project which sought to define the educational relationship between the State of New York and its Native American population. The students hoped that such a study would help to account for why so many Native American children were dropping out of school, thereby perpetuating the vicious economic-social cycles found on so many reservations throughout the country.

After dividing into groups, the students conducted interviews with members of the State Education Department, administrative representatives at Lafayette Central School, and members of the State's Sub-Committee on Indian Affairs. Information from the interviews, along with data accumulated from other sources, was then organized into a thirty-page document which was at the time the most definitive study of its kind in the State.

In a similar vein, an earlier class developed a lengthy critique of "The Reilly Report", a document produced by the State Sub-Committee. Copies of the critique were forwarded to State and Federal legislators, and personal responses were received from Senator Jacob Javits and now Congressman Don Mitchell. One of the recommendations of the class, the creation of the position of State Indian Commissioner, later became a reality, coincidentally or not.

Both of the projects had been initiated in the hope of affecting necessary reforms, and while the students' efforts bore little fruit, the experience of having tried made the experiences worthwhile.

In the fall of 1971, the class helped plan and direct a Conversation in the Discipline (one of the first at a community college) on the topic of "The Native American Today." Despite inclement weather, more than 100 professors from colleges throughout the State attended the sessions. Among the speakers featured were: ex-Commissioner of Indian Affairs Louis Bruce, Native American historian W. T. Hagan, President of Navajo Community College Ned Atcitty, and Chief Lloyd Elm.

The experience of planning and directing the conference, including the videotaping of the presentations for future use by HCCC and other schools, together with participation in the informal and formal discussions, proved to be invaluable to the students. Other classes have organized seminars on a variety of topics relating to the Native American and featuring Native speakers (e.g. Chief Jacob Thompson).

In an effort to improve instruction in area schools of Native American history, two recent classes participated in the following events. The first read an article by Lee Bowker entitled, "Red and Black in Contemporary American History Texts: A Content Analysis." The article stated that very little information relative to Native Americans was being disseminated in the elementary and secondary schools of this country. He went on to state, after studying several texts, that this problem was worsening. The class decided to put Bowker's claims to the test by visiting schools in area towns and interviewing teachers in elementary and junior high grades. In every instance but one, the students discovered that contrary to Bowker's conclusion, the teachers were providing their classes with a significant amount of information on the topic in question. To compensate for a lack of textbook information, the teachers prepared their own units. To help supplement the efforts of these and other teachers, the class then prepared a detailed list of suggestions pursuant to the development of units on Native Americans for each grade from K-8. The project was concluded with feature stories in local newspapers on the results of the study and a journal article describing the total experience. Copies of the article, which included the supplementary suggestions, were forwarded to the cooperating teachers and social studies departments throughout the county.

Perhaps the crowning achievement occurred in the spring of 1976. During that time, the class decided to prepare a slide series depicting the history of the Native American. Cognizant of the increased use of audio-visual materials in classrooms throughout the country, the students felt that a 45-60 minute slide presentation complete with accompanying commentary and music could be used effectively on all levels of education and beyond (i.e. speaking engagements with organizations like Rotary, Kiwanis, Knights of Columbus, etc.). Through the first half of the semester, the class scanned scores of books searching for the appropriate pictures. Once this was accomplished, HCCC's Audio-Visual Department graciously and quickly made slides from the selected pictures. The class spent a month preparing the accompanying script. Songs by the noted Native American artist, Buffy St. Marie, were included at key points. The finale featured a powerful presentation consisting of slides alternately depicting the natural beauty of the land as it might have been prior to the European invasion and the destruction of the environment which has subsequently occurred. The background music incorporated during this phase was the Irwin Shaw Chorale's rendition of "America the Beautiful". After editing the rough edges and rearranging a few slides, the presentation was shown during the last class, a fitting climax to a productive semester.

Last fall, the slide history was presented before the general public on several occasions, each time with a tremendous response by the audience. Presently, I am contacting publishing companies in the hope of having the presentation produced for distribution to schools throughout the country. Should that happen, the efforts of the class to improve both the schools' and community's awareness of Native American history would have reached proportions even their idealistic instructor never imagined possible. And if the presentation is not "published", it still can be used for many years to come in area schools.

Members of the same class found the time at the end of the semester to work with the faculty at St. Francis School, helping them to develop units on Native American history. Especially noteworthy were their efforts with the Kindergarten class taught by Sister Bart. The students helped to construct a large tipi which was eventually covered with sheets beautifully decorated with Plains Indian art styles by the children and made arrangements for and helped chaperone a field trip for them to the Iroquois Village at Utica's Junior Museum. The trip proved to be a fitting conclusion to a month-long unit on Native American developed with much expertise by Sister Bart herself.

In addition to the projects described throughout, students in previous classes have visited area schools as guest lecturers, written letters-to-the-editors of area newspapers (reacting to the half-truths which often find their way into editorials) and written pamphlets on subjects ranging from Chief Joseph of the Nez Perce to the American Indian Movement (which will be distributed this fall to libraries in various schools throughout the county.)

It has been my continued hope that SS242 would provide the student with a learning experience that he or she could carry through life, applying it in a variety of ways as different situations would dictate. Instilling in the student both a desire to continue to study the topic after the course has ended and an awareness that he or she could use his knowledge for the benefit of others have been essential to the realization of that hope.

Recently something happened which indicated to me that some of these objectives were in fact being realized. I received a call from Larry Sweet, a former student who had since graduated with honors from the College at Fredonia. Larry requested some help in planning a two-week unit on the topic of Native Americans, the unit to be implemented during his brief tenture as substitute teacher at Mohawk High School. In effect, I needed to add very little to what Larry had already planned and the realization that he had the initiative and ability to carry on "the tradition", so to speak, led me to believe that, in part, my reasons for teaching SS242 were valid.

Certainly, much remains to be done to make the course a lasting learning experience for all of the students, but as long a future classes have an opportunity to exercise their creative abilities and apply their classroom experiences, I have no reason not to expect a long line of Larry Sweets to follow. Eventually, if other schools can follow suit, aided as they do by various projects* described in this article, a large segment of the next generation of New York Staters will be blessed with an understanding of the Native Americans "true" history and motivated to act and to better the horrendous existence in which Native Americans must live because of our generation's ignorance.

While the above sentiments may seem overly idealistic to some, to me they are no more idealistic than my objects in teaching SS242, objectives which time and experience proved to be not so idealistic at all.

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*Any materials mentioned in the article may be obtained upon request of the author.

EDUCATIONAL APPLICATIONS OF BIOFEEDBACK TRAINING

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The greater part of the past research in Biofeedback Training has focused on applications within various clinical models. This is understandable since some of the most dramatic results have occurred within this area. Many questions, however, remain to be answered and research must continue.

Another area of application, and one which has received comparatively little research attention, is the role of Biofeedback Training in education. The educational process presents students and faculty alike with a number of complex problems. For instance, the development of poor learning skills can be viewed as the ineffective coordination of perceptual, cognitive, and motor processes. We find that students are often conditioned into behavior which tends to inhibit rather than facilitate learning. All too frequently, as they attempt to commit certain facts and concepts to memory, they do so in an environment or state of mind which dooms any productive outcome. It is apparent that, in general, both student and teacher lack knowledge concerning how our perceptual senses and cognitive processes interact. For instance, the way in which the material is presented (verbally vs. visually) may affect the degree of learning and retention. Another factor all too often affecting the learning process is the emotional state of the student. Add to these general problem areas, the special problems of the learning disabled, emotionally disturbed, and mentally retarded, and we find that the educational process begins to falter.

Some of these problems may be dealt with through the use of various Biofeedback Training models.

ATTENTION

The role of attention in the learning process becomes obvious with the problems encountered by hyperactive or hyperkinetic children in a learning environment. Attention is a basic ingredient of cognitive processing, and problems in the ability to attend are not restricted to special populations. With the move toward education systems and individualized instruction, personal knowledge of the effective limits of one's attending abilities becomes a real variable in the education process. Attention seems to be tied to certain brain wave configurations which Biofeedback Training can bring under greater control.

MEMORY

Along with attention, effective memory is a basic necessity for the process of learning. Several investigators have shown that subjects who were trained to increase their alpha rhythm production (8-12 CPS) reported an internal focus of attention and the blocking of external stimuli, suggesting a possible relationship between alpha rhythm and recall. Green, Green and Walters found that subjects who produced the greatest percentage of alpha in EEG recordings (speaking and eyes open), also had the highest scores on a delayed recall test of prose stories.

COGNITIVE STYLE SYSTEMS

A number of studies have shown that the manner in which material is presented may determine to what degree the material is learned and remembered. Some people learn best when material is verbally presented, others when the same material is visually presented. Cognitive style mapping attempts to evaluate the perceptual system of an individual to discover what styles of input aid or retard learning for that individual. Biofeedback Training techniques have proven valuable in augmenting cognitive style mapping systems.

NEW LEARNING

During the last 20 years, there have been numerous animal studies involving the electrophysiology of the conditioned response. A common observation in these studies is a desynchronization in EEG recordings during early stages of conditioning. This finding is supported by investigations with human subjects who were required to learn complex verbal material. A decrease in alpha activity and an increase in beta waves were observed when nonsense syllables were first being anticipated correctly. Further research showed that subjects who produced greater percentages of beta waves during photic stimulation subsequently required significantly fewer trials to reach criterion in a paired-association learning task. In contrast, subjects who had greater percentages of slow brain waves (8Hz or less) during photic stimulation were found to be slower learners.

Mulholland has also shown that during the visual monitoring of tasks, subjects produced longer periods of beta waves and shorter 'bursts' of alpha wave activities. From these results beta activity appears to be related to the acquisition of new information.

Research in the voluntary control of the left and right hemispheres of the cerebral cortex suggest that the left hemisphere of the cerebral cortex of the brain is predominantly involved with analytic thinking involving language and logic, and processes information sequentially and logically. The right hemisphere appears to be primarily related to wholistic and intuitive thinking, orientation in space, artistic talents, body awareness, and the recognition of faces. Research suggests that Biofeedback training to enhance alpha production in the left hemisphere would put that hemisphere into 'neutral'. The right hemisphere would then play the dominant role in whatever cognitive processing was taking place at that time. The reverse effect could also be obtained by enhancing alpha output in the right hemisphere. These techniques may facilitate specific kinds of learning.

REMEDIATION

One of the outstanding problems produced by the "open enrollment philosophy" in colleges and universities is the increasing number of students with poor learning skills; one of the most basic of which is reading. Too often standard reading tests and remediation programs result in only small improvements in reading comprehension and reading speed. EMG feedback may prove a valuable asset in dealing with the specific problem of subvocalization, a factor effecting reading comprehension and speed.

LEARNING DISABILITIES

Some of the problems encountered in the education of the learning disabled begin with the diagnosis of the problem. For example, the IQ potential of some cerebral palsy children have been erroneously established within the severely retarded range. They were found later to be within the normal range. This problem, usually the effect of inadequate testing tools and procedures, obviously affects the teaching/learning orientation. We find that the diagnosis of certain learning disabilities is dependent upon specific behavioral syndromes; behavior which indeed may be mistakenly comprehended or the chance result of variables having little to do with the disability. Problems in diagnosis and treatment may result.

The ability of Biofeedback Training techniques to tap and reinforce covert responses to external cues may prove valuable in assisting the diagnosis of the learning disabled as well as supporting their learning processes.

EMOTIONS

Our emotional response to our environment has a way of inhibiting or facilitating our comprehension and attention. It may seem an enormous task and responsibility to take into account the student's emotions as a real variable in the educational process. Further, it may seem an impossible task to control for this variable. Considering general student/faculty ratios, it would seem impractical for the instructor to assume personal responsibility for the continuous manipulation of individual learning environments to suit the emotional state of each student.

A more workable approach would be the teaching of skills which would allow the student to develop a greater control over his or her affective domain. The student would then be responsible for the control of disruptive emotions within the learning environment. Hopefully, the insights and controls would generalize to the entire life style.

The following areas seem to reflect the potential of Biofeedback Training techniques in dealing with emotional factors.

Desensitization--Work is being done using biofeedback training in desensitization programs. Potential applications would be found in helping students deal with test-taking anxiety, fear while speaking, and many other education related anxiety provoking situations.

Interpersonal Competence--A number of students in Biofeedback Training programs report increased competence in interpersonal relationships. They report being able to converse more comfortably and confidently with instructors, which seems to have a positive effect on the learning/teaching environment.

Self-Esteem and Self-Confidence--Persons in extended Biofeedback Training programs frequently report an increase in self-esteem and self-confidence. As these persons achieve increased voluntary self-regulation of their psychological and related physiological processes, they seem to feel as if they are in greater command of their own life and can do more to affect their course of living.

Personality Integration--Green, Green and Walters have found that persons in extended Biofeedback Training programs report something which sounds much like a personality integration. As a result, they function more effectively, wasting less energy on self-incrimination; rather directing their energies to more creative living.

Creativity--Again the work of Green, Green and Walters suggests that a state of reverie, conditioned through Biofeedback Training, seems to be linked to creative solutions or inspiration.

A PROGRAM IN BIOFEEDBACK TRAINING

During the spring and fall semesters of 1975, an experimental course called Biofeedback Training was introduced at Niagara County Community College. This course included the following topics: Change/Stress Analysis, Biospectrum Analysis, Information Process Profiling, Biofeedback Training, and Autogenics. The purpose was to establish if an indoctrination in psycho physiological self-management analysis and skills would have any positive effect on students' behavior, productivity, and life style. The evaluations were encouraging and seem to justify the inclusion of this course as an applied course offering in the psychology area.

The course description is as follows: "A comprehensive analysis of the personal physical and psychological factors governing our behavior followed by training in the modifications and control of such factors. The following topics will be included: Biofeedback Training, Biospectrum Analysis, Change/Stress Analysis, and Information Process Profiling." The text materials are a set of journal articles.

The course objectives are as follows:

A. Biospectrum Analysis: To develop an awareness of the personal biological cycles which influence our physical and psychological responses to the environment.

B. Biofeedback Training: To develop skills necessary to mediate autonomic nervous sytem activity.

C. Information Process Analysis: To develop an awareness of individual styles of interaction with the environment: psycho physiological predispositions affecting information processing.

D. Change/Stress Analysis: To develop an awareness of the dynamics of personal anxiety and stress.

COURSE ORGANIZATION AND METHODS

The academic content of each subject area is presented in a lecture, question and answer format. Students are required to provide at least one additional hour per week for the applied portion of the course.

At the beginning of each semester, students are evaluated on Biomonitors. This provides an objective criteria against which they can measure their improvement. Biomonitor evaluations are again taken at midsemester and end of term.

For Biospectrum analysis, students provide standardized daily data forms which will be compiled, chronologically ordered (data processing), and returned to them before the end of the semester. They then are assisting in using this data to develop personal Biobehavioral pattern profiles.

Other subjects are approached in the same manner; presentation of academic content, evaluation and training followed by the demonstration of the acquisition of academic knowledge and applied skills.

COURSE OUTLINE

BIOFEEDBACK TRAINING

A. History and Perspective

B. Subjective Reinforcement Conditioning
    1. Psycho physiological interact model
    2. Progressive relaxation
    3. Autogenics
    4. Meditation

C. Objective Reinforcement Conditioning
    1. Brain waves
    2. Muscle enervation
    3. Galvanic skin potential
    4. Circulatory control

D. Biomonitors
    1. EEG
    2. EMG
    3. GSR
    4. Differential Thermal

E. Procedures
    1. Specific training in electrode operation machine calibration and shaping procedures for various Biomonitors

BIOSPECTRUM ANALYSIS

A. Evolution of biological rhythms

B. Measurement systems
    1. Cycles
    2. Periods
    3. Frequencies
    4. Rhythm amplitudes
    5. Phase

C. Environmental Effects/Geophysical Variables
D. Biochemical Processes
    1. Endocrin involvement
    2. Electrolites and behavior
E. Charting Changes
    1. Data collection
    2. Pattern analysis
F. Personal Biospectrum Profile

CHANGE/STRESS ANALYSIS
A. Change as Stress
    1. General adaptation syndrome
    2. Biochemistry of stress
B. Stress Related Disorders
C. Personality Variables in Stress
D. Evaluating Environmental Stress Potential
E. Voice Stress Analysis
F. Development of Personal Stress Analysis Profile

INFORMATION PROCESS PROFILING
A. Test Administration
B. Test evaluation and explanation
C. Application of Test Results
    1. Relation to Biofeedback training
    2. Interaction with stress analysis profile
D. Development of personal information process profile

A PRACTICAL APPROACH TO FINANCIAL ANALYSIS

by Robert M. Francis
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If you teach or have taught corporate accounting and get involved with financial analysis, you have probably found yourself identifying financial terms, and also explaining that various corporations use a variety of terms all meaning the same thing. It is difficult for students to understand the variety of terms and their locations in corporation statements, yet students should be made aware that many companies present their financial data differently and that different methods of accounting are used in their analysis.

Annual Reports

Students must understand that some companies use an account called "retained earnings," while other companies still might be using the term "earned surplus," "capital surplus," or "accumulated earnings." Similarly, the term "premiums on preferred stock" has the same meaning as "excess of proceeds over par value."

Students find it difficult to comprehend that accounting is a numbers language, and that the method and emphasis used will determine the significance of various items; that is, the kinds of items a company might want to stress or obscure in its corporate reports. A company might, for example, want to stress small inventories, or smaller cost of goods sold, and in some of today's industries, smaller profits. This can be accomplished legally by using flexible accounting methods and procedures. This financial juggling or hokus pokus can be shown in the various annual reports wherein companies change their inventory accounting policies to reduce reported income. Students might be made to see the effect of a stock split on earnings per share or the effort to obscure earnings by using contingency reserve accounts. It is important for the students to be able to read an annual report, but it is even more important that they be able to read between the lines.

Instructors usually teach methods of determining inventories and depreciation; yet unless teachers compare companies using similar methods of determinations with similar industries with an eye on the emphasis, financial analysis has little value. Teachers might have each student select a different corporation in which he or she may have some personal interest and have him or her send for its current annual report.

Business Communications

Communications is a very important subject. Teachers hope that students are picking up the essentials somewhere in their education. Some of the techniques for writing a good business letter can be developed in the project suggested because students are required to write a letter to the company selected. It is important to note that one letter to one company will not produce 100 percent effective letter-writers. However, it does give the student an awareness that there is a proper way to set up a letter. The project also provides an opportunity for students to visit or at least get acquainted with stockbrokers and business references, such as Moody's and Standard & Poors.

The student might select a company for study during the first week of the semester to allow time for the mailing of the annual report. About three to four weeks into the semester, after the class begins corporation accounting, the students will begin to receive their annual reports. They then have actual annual reports to see how the various companies prepare their statements. With the use of an overhead or an opaque projector, the students can review many reports. During each class session several students' annual reports are presented via the projector to emphasize the flexibility in statement preparation and the accounting terminology used in each statement. The student can then begin to appreciate the value of reading the footnotes that accompany the various statements to prevent misinterpretation of available funds.

Statistics Analysis

In addition to emphasizing flexibility, simple calculations can be made from the annual reports with little trouble. It is also important to stress to the student the significance of the data that has been calculated. Too often we stress an answer with little emphasis on its meaning.

All students should calculate the following:

1. Working capital
2. Current ratio
3. Quick assets and the quick asset ratio
4. Inventory turnover
5. Book values
    a. Net book value per bond
    b. Net book value per preferred share
    c. Net book value per common share
6. Capitalization ratios
7. Division of income-operating ratios
8. Interest coverage
9. Earnings per common share
10. Price-earnings ratio
11. Profit for the year on the basis of cash flow

Each of the above calculations is determined by the student for the company selected by that student. Each calculation is accompanied with the significance of the data obtained. A very helpful reference source for the student is the pamphlet "How to Read a Financial Report," published by Merrill, Lynch, Pierce, Fenner, & Smith, Inc.

As the teacher presents topics on corporations emphasizing the kinds of stock, the preparation of the stockholders' equity section, the appropriated and unappropriated sections of retained earnings, and the kinds of long-term debts stressed by the textbook, the instructor can project visually so that students can see actual reports. The class then calculates the previous data listed earlier on the overhead projector. Since each student has to compute his or her own data, each student comes to class hoping his or her annual report will be used as an illustration. The teacher should try to select from each student's report some analysis to maintain interest and to emphasize statement versatility. The report that the student prepares from the annual report is a culmination project due at the end of the semester; therefore, the number of students asking for assistance is relatively small at any point during the semester.

References

Once the calculations are determined, the students can check their ratios with "Key Business Ratios," which presents statistics from 125 lines of retailing, wholesaling and manufacturing, and construction. This pamphlet is developed by the business economics department of Dun and Bradstreet, Inc. Thus the student has some basis by which to compare data. All during the project it is stressed that the ratios obtained are only significant within a particular industry rather than to industries in general.

The students are also asked to keep an eye on financial sections of newspapers such the The Wall Street Journal and Barron's for items that might affect their company's future growth. At the end of the report, each student presents a short summary of the financial position for the company selected based upon the calculations and comparisons made as to its growth potential and future prospects.

Inquiries conducted after graduation have shown that as an end result this project has produced a better understanding of the accounting language of business, an appreciation for letter writing techniques, and a knowledge of the various business sources and references one can obtain and use.

This kind of project does take time both in and out of class. The project in and of itself is not too time-consuming, but several hours a week are spent answering students' questions. All business students should be acquainted with financial analysis, and what better way is there than to use actual reports?

A PARADIGM FOR COMPETENCY-BASED INSTRUCTION IN ART HISTORY

by Yvette Jayson Sencer
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The teaching of art history, from the introductory survey to the most advanced course, has generally been conducted by scholars highly trained in research procedures rather than in teaching methodologies. A common criticism of art history teaching has been that it often takes the form of a dry presentation of factual information. Such a presentation is characterized as the least complex process in the Taxonomy of Educational Objectives and is described as including "...the recall of specific and isolable bits of information...knowledge of terminology...knowledge of dates, events, persons, places, sources of information, etc."[1] In discussing this objective, the taxonomy points out that there is often a vast number of specific facts to be presented and that the teacher is confronted with the problem of determining which facts are most appropriate for the students in a particular course of study. Once facts are selected and presented, there is usually concern for the students to commit the presented knowledge to memory, and testing generally focuses on the students' ability to recall the facts. It is clear that such educational results may not always be the most desirable. Rather, teaching that encourages such learner activities as perceiving, understanding, processing and synthesizing information may be a much more desirable pedagogical approach.[2] These more complex competencies place high emphasis on teacher, as well as on student performance.

The notion of competency-based instruction as an instrument of educational change is one that deserves attention from the art historian who teaches. Competency-based instruction can offer an interesting alternative for the teacher who focuses strongly on the presentation of facts and tends to omit more complex teaching objectives. It is a simple, straightforward teaching alternative that links educational procedures directly to educational results.

Competency-based instruction has recently been expansively applied to fields such as teacher education and the performance of certain technical tasks.[3] It might also offer a valuable paradigm for the art history classroom. It should be pointed out that competency-based instruction is not offered here as a definitive strategy, but only as one that might be integrated with a range of possible alternatives, and one that might especially aid educationally and culturally disadvantaged students in art history, a field often alien to this student population. Competency-based instruction seems particularly suitable for these students because it makes clear what competencies are to be demonstrated by the students, specifies the criteria for assessing those competencies and holds students accountable for fulfilling the criteria. These mechanisms provide a structural framework for instructional activities and for intended learning achievements.

One of the hoped-for results of competency-based instruction is that of humanizing education by aiding students to develop reasoning skills related to a particular study area. Cognitive objectives specifying a particular range of knowledge and intellectual skills to be demonstrated by the student have traditionally been basic to the study of art history. Competency-based instruction may also encourage affective learning and assist the student in becoming aware of affective concepts, and in learning how to deal with attitudes, beliefs and values.

A CBI Paradigm

The first step in developing a CBI model is to specify a constellation of cognitive abilities and affective experiences that can be operationally labeled "learning" or "desired outcomes" or "competencies". Once the desired competencies are determined, it is necessary to identify particular indicators of these competencies. Criteria for assessing the indicators must be selected and assessment procedures must be specified. Instruments for assessment of student competencies may focus on quantitative and/or qualitative data.

Competencies

Since particular courses seek particular objectives, the list of desired competencies may include an endless range of cognitive and affective goals. Those presented here as examples are broad and general and may be applied as stated or amended for greater specificity. There is no attempt here to present a taxonomy of competencies and those suggested below appear in miscellaneous order.

> Knowledge of formal elements of art (line, shape, color, light and dark, harmony, balance, etc.).
>
> Knowledge of technical aspects of media.
>
> Understanding terminology and developing a specialized vocabulary.
>
> Knowledge of historical concepts (political, economic, religious, social, etc.).
>
> Development and growth of aesthetic sensitivity and perception of aesthetic qualities.
>
> Perception of relationships in the history of art.
>
> Perception of relationships among works of art and historical concepts.
>
> Developing critical judgments and justifying them.
>
> Distinguishing aspects of subjectivity and objectivity in analyzing works of art.

Indicators of Competencies

The indicators of competencies should be stated in the clearest manner possible. Students often infer rather than make evident certain learning. Therefore, indicators of competencies should refer to specific behaviors evidenced. Some examples of indicators of competencies are cited below:

> Identifies and describes materials and methods used in artworks.
>
> Uses art terms to describe qualities in works of art.
>
> Associates particular stylistic characteristics with particular places, periods or artists.
>
> Demonstrates an ability to judge artworks when criteria are presented.
>
> Specifies similarities and differences among artworks.
>
> Speculates about the roles of art and artists.

Assessing the Indicators of Competencies

Evaluation may be as simple or complex as the instructor desires, and assessment procedures should be constructed to determine both student progress and program effectiveness. One assessment method that includes both qualitative and quantitative measures focuses on competency ratings that reflect five possible judgments as follows:

5	4	3	2	1
(superior)		(acceptable)		(unacceptable)

In this system, comments are also made regarding each competency.[4]

Another assessment device uses a five point scale, rated from high to low. The evaluator is asked to place a check at the point which best describes the degree of competency achieved. A qualitative evaluation is also a part of this assessment tool.[5] The scale rates such competencies as understanding and valuing the art product by asking the evaluator such questions as the following:

> To what degree can the student examine and discuss physical aspects of art?
>
> To what degree can the student examine and discuss social aspects of art?
>
> To what degree can the student examine and discuss historical aspects of art?
>
> To what degree can the student evaluate art works by specifying their aesthetic qualities?

Assessment can feature pre-program screening, on-going evaluation and end-of-program evaluation. Whichever measures are selected and whatever the degree of frequency with which they are implemented, a unique concept of assessment is employed in the implementation of a competency-referenced and formative assessment in addition to the commonly used summative assessment. In criterion-referenced assessment student progress is measured against the student's own personalized objectives rather than against the progress of others. Assessment is considered formative because assessment procedures are used to determine the competencies that the student lacked prior to participation in the program. On the basis of this information, personalized programs may be arranged.[6]

One aspect of competency-based education that should be emphasized here and which is considered an essential part of a CBI program is the involvement of students in program development. In some art history programs students may indeed assist in the selection and development of subject matter or other course activities. However, most colleges do not function along these lines and course work usually proceeds in accordance with a predetermined plan. It has been suggested that subject area work may be organized into three main categories of activities to encourage greater student participation and also to relate classroom work to personal experience.[7] The categories "required", "selected" and "negotiable" could be applied to activities or assignments in the art history course for the purpose of encouraging students to achieve desired competencies in their course work and to engage students in becoming personally responsible for achieving these competencies. Such a self-directed course of action might aid in suggesting individual modes of learning that are most appropriate for each student.[8] This sort of student involvement in decision-making might have especially strong appeal for individuals with particular educational shortcomings by allowing them to excel in areas where they believe it is possible for them to excel, by encouraging personal decision-making and problem-solving skills and thereby enhancing self-concept. These useful categories of work are described below:

Required:	All students would be responsible for completing and achieving a degree of competency in required activities or assignments.
Selected:	Students could select from a variety of alternatives those assignments or activities that best fulfill their needs.

Negotiable: After consultation with the instructor, students would make a commitment to complete certain activities according to a mutually-developed plan, and to achieve an agreed-upon degree of competency in them.

In general, art historians tend to employ a pragmatic approach to information in the classroom. An alternative is an integrated approach that leads to aesthetic adventures, "happenings" in the realm of cognition and affect that may encourage the learner toward developing sensibility and intuition as realistic modes of knowledge in addition to the more traditional educational achievements. In describing a theory of instruction, Bruner asserts:

> A body of knowledge, enshrined in a university faculty and embodied in a series of authoritative volumes, is the result of much prior intellectual activity. To instruct someone in these disciplines is not a matter of getting him to commit results to mind. Rather, it is to teach him to participate in the process that makes possible the establishment of knowledge. We teach a subject not to produce little living libraries on the subject, but rather to get a student to think mathematically for himself, to consider matters as a historian does, to take part in the process of knowledge-getting. Knowing is a process, not a product.[9]

Competency-based education takes such ideas into account and offers a fresh, humanistic, alternative pedagogical method. By encouraging explicitness in the specification of learning objectives and in strategies for evaluation, by personalizing instruction and fostering student and teacher accountability, CBI might offer a rewarding paradigm for the art historian who teaches.

FOOTNOTES

[1] Benjamin S. Bloom, ed., Taxonomy of Educational Objectives, Handbook I: Cognitive Domain (New York: David McKay, 1968), pp.62-67.

[2] The reader is referred to the following for an in-depth discussion of these concepts: Manuel Barkan, Laura H. Chapman and Evan J. Kern, Guidelines: Curriculum Development for Aesthetic Education (St. Ann, Missouri: Central Midwestern Regional Educational Laboratory, 1970).

[3] W. Robert Houston, ed., Competency, Assessment, Research and Evaluation, Report of a National Conference, University of Houston, March 12-15, 1974.

[4] Manhattanville College, "Evaluation of Competencies Demonstrated" (Unpublished material used in a teacher-education program).

[5] Linda Bastian and Yvette Jayson Sencer, "Student Art Product Rating Scale" (Unpublished material for the School of Visual Arts).

[6] Howard L. Jones, "Implementation of Programs," in Competency-Based Teacher Education, ed. by W. Robert Houston and Robert B. Howsam (Chicago, Illinois: Science Research Associates, 1972), p. 122.

[7] W. Robert Houston, ed., Exploring Competency-Based Education (Berkeley, California: McCutchan, 1974), p.184.

[8] For a discussion of required and voluntary educational processes see J. Gordon Chamberlin, *Toward a Phenomenology of Education* (Philadelphia, Pennsylvania: Westminster Press, 1969), pp.107-109.

[9] Jerome S. Bruner, *Toward a Theory of Instruction* (Cambridge, Massachusetts: Belknap Press, 1966), p. 72.

BRINGING LIBRARY RESOURCES OFF-CAMPUS

by Miriam Kagan Margoshes
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Meeting the demands of academia in suburbia has led to the proliferation of off-campus courses by many colleges. Unlike many other institutions, Westchester Community College (W.C.C.) decided to hire a part-time librarian to provide library resources to the extension sites. I was hired to evaluate the off-campus situation and to provide library service to faculty and students at extension centers. In 1967 the American Library Association recognized that extension courses would multiply and established guidelines for libraries.[1] These were general guidelines calling on the colleges and public libraries to recognize the fact that there were many off-campus students who would need library resources and that to deny them these services would be a denial of equivalency in content of the off-campus course to the on-campus course. W.C.C. hoped that the library services to their off-campus courses could be made equivalent to the campus courses.

THE OFF-CAMPUS STUDENT

The courses that W.C.C. offers off-campus reflect the programs that are offered by a community college. They appeal to individuals who find the campus inaccessible. (Bus service to the campus site is limited and, for most students on campus, private transportation is a necessity.) Students come from diverse backgrounds. Some are returning to the classroom after a long absence and are testing their ability to meet the challenge of a college course; some want job improvement or are learning new skills for job change; some take courses for personal enrichment. Many are not aware of the wealth of resources available to them through the library.

THE OFF-CAMPUS FACULTY

The faculty of these courses come from the college community itself, and from the community at large where specialists in particular fields are hired as adjuncts to teach one or two extension courses. Those faculty who are on campus are aware of the library resources available at the campus library. Those who are not had to be made aware of resources available both on and off campus.

CREATING EFFECTIVE LIBRARY SERVICE

To create effective library service, the author took several preliminary steps to determine the basic needs of an off-campus program. She decided that a viable program would include at least the following:

1. Provision of reserve books and/or other materials where the course relied on such materials.
2. Provision of instructional sessions on library resources and how to find them, that would encourage students to use the library not only for course information but for other information as well.
3. Provision of audio-visual materials to faculty (and students) both in and out of the classroom.
4. Aid to the faculty in the preparation of a bibliography (mediography).

The author visited course sites to see the actual course environment. Was there adequate space for use of A-V equipment? Could a film be shown in the room? If not, was space available elsewhere in the building? Was A-V hardware available at the site? Was there a supervised area for shelving college materials?

Informal meetings were held with the educational coordinators at each location and some faculty. Because meetings with all faculty were impossible, a questionnaire that asked the following questions was sent to all off-campus faculty:

1. Name..
2. Are you a full time faculty member?...............................adjunct?..................
3. How many courses do you teach off-campus? (name and location)......................
4. Has course(s) been given before in that facility? yes.................no....................
5. What is your average class size? 0-10?..........10-15..........15-20..........20+.........
6. Do you assign additional materials beside a textbook? yes............no.................
   for a research paper? yes............no.................
7. Does your course include an outline and/or a bibliography? yes...........no..........
8. Would it be beneficial to you to meet with a librarian in planning your bibliography? yes..................no.....................
9. Would your students benefit from a presentation on library usage skills and materials available? yes...................no....................
10. Are there adequate library facilities available for your students at locations?......
    Westchester College Library?........................
    Westchester Public Libraries? (name location if possible)...................................
11. If there are no library facilities, is there a supervised area where materials might be kept? yes......................no.......................
12. Would a satellite library facility at your location be advantageous to your course? yes....................no.....................
13. Do you use A-V materials in your class? yes......................no............................
14. Would it be possible for you to pick up print or non-print materials on campus? yes........................no............................
15. If A-V equipment was available, could you use it without a technician? yes......... no................
16. Would it be possible for you to come to the campus to pick up A-V equipment? yes.......................no........................
17. Would your students benefit from the use of A-V materials outside of the classroom? yes......................no........................

Answers to these questions helped determine where weaknesses existed off-campus.

FINDINGS AND IMPLEMENTATION: Penal Institutions

Special consideration had to be given to the penal institutions. The need for education seems obvious, yet opportunities for the exploration of knowledge are limited. Rooms called libraries are extremely limited in size and scope of collection. In one institution the library was almost non-existent. The concept of a library as an important feature of education and rehabilitation had not been established. Programs to bring books into the prisons by public libraries are limited to those librarians willing to volunteer their services. It is possible for the inmates to request specific materials through inter-library loans, but non-library personnel must be aware and willing to utilize the service. Funding for library service to benefit the entire population of an institution must be provided in the budget of the institution itself. All institutions showed a scarcity of resources. Reference tools, circulating books and other media that would benefit the college student were non-existent. At one institution, despite the fact that there was a professional librarian employed, the director of education did not want our college courses involved with the library. (She has since been replaced.) At another institution, inmates acted as librarians with little knowledge or control of the library and its contents. A-V hardware was available to faculty at some centers, but there was no assurance that it would be available at a specific time.

Our faculty at the institutions felt a particular need for library resources since the student had no way of getting additional materials beyond the classroom. The challenge was to create a positive atmosphere for housing college library materials, to bring them into the institution, and to make sure that the students had access to them.

At two institutions in the county, a program for reserve college materials has been established. Students are allowed to use the resources within the institution library. Some materials circulate. At one prison there is a professional librarian who has worked very closely with the college librarian and has gone out of her way to bring resources to the students. At another, a part time librarian has just been hired. At a third institution (and one where a library is desperately needed), the administration is attempting to convince the State of the need to hire a professional librarian.

FINDINGS AND IMPLEMENTATION: The Mobile Student

Our mobile students off-campus take courses at educational centers, hospitals, agencies, and business-industrial complexes. Although provision could be made at most centers to house reserve materials in a supervised office, this was obviously a limited approach to providing information beyond the classroom. The author decided that there was a need for a total library experience, and that could be accomplished either by asking the students to visit the campus library or by using the public library in the geographic area of the course. The mobile student is encouraged to utilize the campus library which houses a collection based on the courses and programs offered by the college. However, because the campus library is not accessible to all our off-campus students, the next best resource would be the public library even though its resources are not primarily for the college student.

PUBLIC LIBRARY INVOLVEMENT

Whether the public library would be willing to work directly with the college had to be investigated. The public libraries in Westchester County tend to be underfunded and understaffed and as a result do not seek additional work. The idea of a college library working directly with a public library had never occurred in Westchester County before. (Inter-library cooperation does exist in the county and an individual can obtain a specific title through the interlibrary loan service of all participating Westchester Library System members, which include public and college libraries.) In this case, the author asked specific public libraries for some shelf space to house college materials and also asked for supporting reference and circulating services. In addition, the author asked for occasional use of the library reference collection for class use and demonstration. In return, the college would provide the reserve materials and the college librarian would give the orientation class. Actually, the public library would be serving residents of its community who might be taking our courses.

Commuting students in various college programs do use the public library and the public library has been chastised for not meeting the students needs. A study by Matilda Gocek in 1970 for the Southeastern New York Resource Council[2] indicated that improvement could occur in public libraries to meet the needs of commuting students. The April 1975 Drexel Library Quarterly devoted an entire issue to "Library Services and the Open University",[3] and Vivian D. Hewitt of the Carnegie Endowment for International Peace wrote of the increasing number of independent learners who used the public library to gain college credit[4]. Again the public library was encouraged to accept the responsibility in meeting the needs of the college student.

COLLEGE RESPONSIBILITY

In involving the W.C.C. college library with the public library, the college has assumed the responsibility of providing media for its students. The college library has initiated service specifically for the W.C.C. student. This cooperative interaction has led to a committee in the Westchester Library System that will explore better relations between college and public libraries.

USE OF NON-PRINT

An examination of the sites showed that courses were being given in some conventional classrooms as well as make-shift meeting rooms. At some sites not even a blackboard was available. At other sites not only was it possible to use A-V in the classroom but A-V hardware was available. A listing was made of all off-campus sites and what was available. It includes 16mm film projector, tape recorder, slide projector, screen, and whether a blackboard is available. Faculty members who own their own slide projector or recorder prefer to use their own. Then they are sure to have the equipment when needed. If hardware is not available at the site, a faculty member may borrow equipment from the campus library for overnight use. The campus collection of films, filmstrips, slides, tapes and kits is available to all faculty members. To date, no provisions have been made for use by individual students outside of the classroom unless the student comes to the campus library. It is hoped that in the near future, monies can be obtained to provide such service.

QUESTIONNAIRE RESULTS

Faculty who answered the questionnaire seemed to agree that library service would improve the quality of teaching and learning. Few found that there were adequate facilities off-campus. Some were in favor of a class session on library usage and how to find information. Many community college students are not familiar with libraries and how to use them. That additional resources would benefit the student's performance was ascertained by a study by Fay Byrd at Nova University.[5] She determined that students with additional resources did perform better in written tests. There is a need for a total library experience for every student and faculty member and the results of the questionnaire confirmed that need. Reaching and attracting the users is sometimes difficult.

FURTHER IMPLEMENTATION OF THE PROGRAM

As has been stated, those teaching in the penal institutions felt an immediate need for library resources and resources from the campus library were brought into these locations to make students aware of the fact that information could be obtained beyond the classroom. When W.C.C.'s collection of traveling materials are inadequate, The Westchester Library System has been most helpful in obtaining books through inter-library loan for prison use. In addition, the campus library was able to purchase and place reference and circulating books at the institution libraries through a Title II Higher Education Act Grant.

To encourage the mobile students to use the library, a letter was first distributed to each student through the course instructor and is now distributed at the time of registration. This letter welcomes students to the college and encourages them to use the campus library. They are also urged to attend a library orientation session on campus if one is not given with their course.

A letter is also sent to each faculty member off-campus along with the listing of A-V resources. This letter was originally sent through the department but is now sent directly to the instructor. The letter outlines the library services available to them and their students off-campus. It suggests arrangements for setting up an orientation session by the librarian during class time. Currently, some instructors feel that their class time is limited and simply ask their students to go to the campus library for additional information; other ask for materials to be placed on reserve at the local library; still others have utilized the availability of class instruction by the librarian and their students have become aware of materials available both at the campus library and at their local public library. Even students who had had previous college experience found that they were learning about resources in the library that they were not familiar with. They also learned that when the library did not have a particular item, that information could be obtained through inter-library loans through their public library or the campus library.

More success of the classroom orientation session has occurred when the librarian was able to contact the instructor by phone after receipt of the letter. Although face to face consultation (at the library) is best, the telephone does present an adequate means of exchanging ideas and discussing educational goals. The librarian can put the faculty member at ease (for sometimes the instructor is not adept at using resources beyond the classroom) and help create an atmosphere where the teacher controls what happens in the classroom and the librarian acts as a supportive force. The librarian can "sell" his or her product. Where such interaction has occurred, everyone has benefited. The student learns more about a given subject, speaks more intelligently and writes a better paper; the teacher becomes a better instructor because more ideas are generated and discussed. The college benefits, too, by providing an equitable course off-campus that reflects quality teaching with learning students.

FOOTNOTES

[1] *Guidelines for Library Services to Extension Students* ALA Bulletin Jan 1967 pp.50-53

[2] Matilda A. Gocek, *Library Service for Commuting Students: a Preliminary Study of Problems in Four Southeastern New York Counties* (Poughkeepsie: Southeastern New York Library Resource Council 1970)

[3] Dorothy Bendix and John Hall, ed., *Library Services and the Open University* Drexel Library Quarterly II (Apr 1975)

[4] Vivian D. Hewitt, *Utilizing Public and Special Libraries to Serve Post-Secondary Education* (In Josey, E.J. ed., New Dimensions for Academic Library Service. Scarecrow 1975) reprinted in Special Libraries Jan 1976 pp.13-17

[5] Fay Byrd, *Learning Resources: Off-Campus Services* (Practicum presented to Nova University in partial fulfillment of the requirements for the Doctor of Education degree Dec 1974) ERIC May 1975 ED 100 448

EDUCATION: TRAINING AND/OR THINKING?

Developing Analytic Skills: Using Reflective Essays in Teaching "Introduction to Sociology"

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This essay presents a way of teaching sociology aimed at student learning of analytic skills. The basic premise is that the educational process should develop among students the ability to ask the "why question," the analytic question that leads to explaining the behaviour being observed. Behind every "what" lies one or more assumptions that when uncovered lead to an explanation of the what. It is the position of this writer that the purpose of education is to develop skills of thinking analytically that will enable students to participate in the public forums through which public policy is made. Otherwise, students will proceed to develop skills enabling them to make a living without taking into account the implications, for the future of the species, implicit in the very social system that puts them to work.

It is possible to find employment by being trained in some skill demanded by the social system. Education may provide training in everything from accounting to medical laboratory techniques. As the larger society defines positions needed, community colleges may respond by offering training programs efficiently designed to produce people competent to fill needed roles. And so students become raw material to be machined for the market. The community college becomes a fully participating member of a consumerist society.

Such training provided by community colleges must be complemented by a content and a process that go deeper and broader. This complementary dimension of community college education is analytic thinking. Such a way of understanding education assumes that to be a citizen is more than being an employee. It includes being a citizen, a person able to think analytically, a person competent to share in deciding issues of public policy, those normative patterns that define what a society will produce and how, and so what jobs will be available.

Training as a goal of education can lead to a supply of persons equipped to fill jobs created by the economic order. Thinking as a goal of education can lead to the creation of persons able to exert effective influence on the very direction and workings of the economic order.

Before proceeding to a presentation of how sociology could be used to educate students at the community college into thinking as a complement to the training they receive, one further assumption calls for articulation. The context within which we live as members of the human species is not, and probably never will be, completely adequate to the potential that lies in being human. The assumption is that we human beings are potentially more than we have yet become. As we develop we can become agents competent to shape our social environment so that those social structures influencing what we are in process of becoming may more fully respond to the potential that lies in being human.

The mission of the educational process is to provide the opportunity for students to develop those thinking skills that will enable and motivate them to participate in the shaping of their worlds. The end of view is the nurturing of autonomous persons.

> As has been recently said, to accomplish such an end an education ought to encourage the development of a tough and disciplined mind...It ought to serve a genuinely 'liberating' function - it should help to foster a critical independence and to free us from our forms of slavery, from the parochialisms of our time and place and station...It should help us to develop those habits of thought which always ask why, which believe in evidence, which welcome new ideas, which seek to understand the perspective of others, which accept complexity and grapple with it, which admit error and which pursue truth...[1]

These past seven years I have been struggling to give this high purpose some tangible form as I have led classes in the course, "Introduction to Sociology". These past three academic years in a community college setting have led me to develop a method that is aimed at this goal. Unfortunately sufficient resources have not been available to systematically evaluate this effort.

The central element used in seeking this hoped-for-outcome is a series of reflective essays. These essays are designed to lead students into developing skills of analytic thinking. My desire is to help the course participants learn how to use the tools of the discipline of sociology to uncover some of the reasons for why human beings behave as they do. Obviously, sociology provides only one of several paths into such understanding: certainly the several social sciences and the humanities offer other pregnant sources of understanding.

But no matter what discipline is used, central is the assumption that only if we human beings understand why we and others behave as they do, can any creative efforts be made to act with a degree of autonomy. By understanding the forces and factors guiding and motivating human behaviour, we humans may then make our decisions and act with some assurance that these decisions and actions will make a difference in the direction the human pilgrimage takes. Unless our actions and decisions take into account the way things are, both within the person and within the social and natural environment, we continue as prisoners of the way things are, automatons rather than autonomous beings.

In short, it is our assumption that to taste, to know, to be free depends on being able to think analytically.

The three reflective essays make a sequence. They are part of a total course plan that uses textbook, reader, movies, classroom discussion and lectures. Through a basic text[2] and the lectures the participants get in touch with the basic tools for analyzing human behaviour as provided by the substance of sociology. Through a reader[3] and movies students are presented with pieces of human behaviour which we seek to analyze. In class discussions we practice doing analysis, both by observing others doing such analysis and also by actually testing out our own emerging skills by taking apart a piece of human behaviour we have observed.

The sequential nature of the reflective essays rests upon a paradigm of the thinking process. This paradigm, or model, looks at the process of thinking as having three dimensions. These are:

1) the descriptive mode	(Asks that WHAT question)
2) the prescriptive mode	(Asserts what SHOULD BE)
3) the analytic mode	(Asks the WHY question)

When human behaviour is observed, our thinking processes go to work. We are led to knowledge about the observed behaviour. In actuality, when we observe behaviour all three modes of thinking operate. Being who we are, it is not easy conceptually or emotionally, to separate out these three modes, and their consequent knowledge. Yet there is the task we set ourselves in doing "Introduction to Sociology".

This becomes clear when we get involved in the process. The end goal in doing these reflective essays is to develop skills in doing sociological analysis. We want to understand why people behave as they do using the matrix of a sociological perspective.[4] But being who we are, there is a marked tendancy not so much to understand as to judge, to assert what should be given our value perspective. The analytic mode of thinking leads to knowledge of WHY. The prescriptive mode uncovers the observer's convictions about what should be. Because in so pervasive a way we are what we value (believe to be true, and right, and good), our knowledge of why may be blocked, distorted, or perverted by the functioning of the prescriptive mode of thinking.

In fact, because of our prescriptive mode of thinking, which arouses strong feelings of either positive or negative valence, we may miss much of significance in the behaviour taking place. Our reports of what is happening may end up being highly inaccurate. Our descriptive mode of thinking then lacks wholeness: attempting to report or describe what is happening, guided by the selectivity induced by the prescriptive mode, our report falls short.

Through the use of three reflective essays we seek:

(1) to become aware of how these three modes of thinking operate through each of us;

(2) to identify our own values and beliefs that prompt our prescriptive thinking; and

(3) to practice using analytic thinking based on descriptive evidence and using a sociological perspective.

To ground these more general descriptions, let's follow the development of the reflective essay sequence. In the actual conduct of the course we use four handouts: (1) A general statement of the rationale and method of reflective essays; and (2), (3), and (4) Guidelines for each reflective essay.

A movie, "The Lottery", based on Shirley Jackson's short story of the same name, is frequently used as the basis for the first two essays. It provides the empirical data on which the three modes of thinking will operate. This is the story of an annual lottery held in what appears to be an American rural community. The title frame of the movie makes clear carefully that it is fiction. All members, young and old, of the community participate in the lot drawing process. The winner of the lottery is stoned by one and all at the conclusion. Much of the behaviour depicted is very familiar: designation of the leader - master of the lottery - by traditional practices, nuclear family arrangements and roles, small talk and joking, and so forth.

In so many ways, observers feel right at home: "This could be my own community". And yet in so many ways it threatens values and beliefs and attitudes held by a large segment of United States society. This piece of behaviour is presented for both reasons. Showing it is designed to lead observers to become aware of their own values, beliefs and attitudes, and to begin to ponder the relationships between these values, beliefs and attitudes, and consequent behaviour patterns.

The first essay, then, is to contain two basic elements. It is essentially a reaction paper, the first step in moving toward developing skills of analytic thinking. First, the observers are to state what their feelings were when they saw people behaving in this way. This is to be a 'gut level' response: anything goes that reflects what was felt by the observer. Secondly, having articulated as clearly as possible what was felt, the observer is to state what lies behind, or beneath these feelings: to lay out what values, beliefs and attitudes were confirmed or challenged, affirmed or threatened by the behaviour observed.

This first reflection paper is designed to sensitize students to their prescriptive mode of thinking, to bring them to a realization of how much our observations of human behaviour result in assertions of what should be. Further, as part of the assignment, they are to identify things actually said or done that set off the feelings aroused in viewing the movie. This is designed to sharpen observation skills, leading, hopefully, to more effective descriptive thinking.

This paper is usually asked for at the beginning of the third week of a fifteen week semester. The suggested length is four to six pages, handwritten. The second reflective essay is based on the same episode in the life of a community. This time, however, the task is to use analytic thinking. Given the descriptive knowledge we have, how would we explain what happened using a sociological perspective? This time the question is, Why did they behave this way? What elements of social structure influenced their behaviour?

By the time this second reflective essay is due, the course has dealt with some of the basic analytic tools offered by sociology. This paper comes due at the beginning of the seventh week. In class presentations and textbook assignments, we will have dealt with the "roadmap", culture and socialization. "The roadmap" is a schematic diagram of the levels of sociological analysis of interaction. Thus, the students will have at hand ways of explaining the behaviour with relative objectivity, leading to understanding and avoidance of judgmental assertions.

The third reflective essay comes due at the end of the twelfth week. This assignment is based on the student's selection of one of six essays in the reader designated by the instructor. The task here is to do an analysis of the behaviour described, while also assessing the thoroughness and objectivity shown by the author of the selected article. As part of this exercise, the essay writer is to identify how their concern with the particular issue of human behaviour presented in the selected article was prompted by their prescriptive thinking.

Such is the present design used both (1) to teach and learn to use basic sociological concepts, and also (2) to develop a clearer understanding of one's self as a social being. In terms of learning goals, the objectives are:

(1) knowledge of the basic concepts and findings of the discipline of sociology;
(2) awareness of the distinctions between the three modes of thinking, and how they are related to one another; and,
(3) skill in applying this knowledge and awareness to a given piece of human behaviour.

Earlier it was noted that this project in learning based on a certain conception of education has its difficulties and problems. This is not the place to lay these out in their fullness and indicate possible ways of coping with them. However, note should be taken of the strain that develops for anyone as we involve ourselves in the process of introspection. Becoming aware of how much of our thinking takes place in the prescriptive mode, can be emotionally/spiritually disturbing. And this is especially true when awareness dawns that social systems encourage parochial world-views, and that the changes leading to our several social locations can be real detriments to thinking analytically.

On the one hand, it appears that whatever freedom may be possible for us depends on taking a relativistic stance; but on the other hand, to take such a stance can lead to a kind of dizziness that could threaten a person's sense of her/him self. In his book, Invitation to Sociology, Peter Berger advises prospective students of sociology, caveat emptor - "buyer beware" - because the strain is there for whoever would seek understanding, and eschew judging, of human behaviour.[5]

I would take this warning of the dangers of the approach outlined here a step further: to the degree that education in any discipline begins with the end of view of nurturing thinking, it will cause not only cognitive struggle, but spiritual strain. H.H. Wilson, professor of political science at Princeton University, points toward this possibility when he says that education demands "the examination of all our preconceived beliefs and values."[6]

In contrast, education as training starts with the assumption, "God's in his heaven, all's right with the world." Education as training - preparing people to perform functions already designed into a society - does not, by definition, lead its trainees into thinking about the ends and goals of the society for which the trainee is being prepared. To do so might well disrupt the allocation of resources defined by the existing social relationships by raising questions about the validity of the prevailing norms. Education as training is primarily content oriented: a learning of agreed upon principles and practices so that the trainee will become competent to fill a job description-defined role. To raise questions about these principles and practices would be considered at least presumptuous, and at worst, destructive of the function itself.

Recently the Student Christian Movement Press in England published a book titled, The Myth of God Incarnate. A leading clergyman, a Canon of Westminister Cathedral in England, commented: "But what we are looking for are answers and I don't think the book is sufficiently constructive."[7] Education as training has all of the "answers" for how to prepare a person to gain the credentials so she/he can fill a job and earn a living.

Education as thinking prepares people to so reflect on their existence, and the situation of the human species, that they can be creative in designing the very social matrix that offers means for the survival of we humans as a species. Such an approach to "Introduction to Sociology" hopefully plays a part in preparing students to be citizens, and not just wage earners and consumers - persons able, because they have learned the value of thinking analytically, to participate creatively at the level of the political process.

FOOTNOTES

[1] Bowen, William G., Annual Report, Princeton University - quoted in The New York Times, "News of the Week in Review", Sun, 12 Jun 77, in article titled, "The Liberal Arts Degree and Its Real Value"

[2] Robertson, Ian, Sociology - Worth, N Y, 1977

[3] Hoult, Thomas F., Sociology Readings for a New Day - Random, N Y, 1974

[4] "The Roadmap"

[5] Berger, Peter L., Invitation to Sociology - Doubleday, N Y, 1963 - Chapter 2, Sociological Consciousness

[6] Quoted by Kennedy, Randall L., Princeton Alumni Weekly, 77:28, 11 Jul 77, "A Tribute to H. H. Wilson: for 30 years, an uncompromising civil libertarian", p 13

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USE OF THE COMPUTER IN FRESHMAN BIOLOGY

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This article is intended to reveal one institution's attempt to utilize a computer in the instructional process for a General Biology course. The purpose of the computer usage is two-fold, to expose the students first hand to a technology which has assumed a large role in today's society and to provide another dimension to the teaching-learning process.

Beginning with the fall semester 1976-77 the Community College of the Finger Lakes became associated with the local B.O.C.E.S. center for the use of their interactive computing facilities. With this association came access to their public library which contains programs written under the Huntington Project plus others written by faculties of area high schools. A brief workshop was presented at Finger Lakes for interested faculty members, this group including the biology instructor who is the first co-author of this article. As a result of this interest and a lack of specialized expertise in computer programming, this instructor sought assistance from the campus computer coordinator, the second co-author.

The programs of the computer's public library were examined to determine their applicability to the biology course. After these were run by the biology instructor, three were selected for use in the spring, 1977, semester, each program begin adjusted to fulfill a special need. During the semester an informal assessment indicated that the instructor, a neophyte computer user, was comfortable using the programs and that the students' attitude toward the computer as an adjunct to the course was favorable.

Due to this modest success it was felt that both the course objectives and computer facility utilization would be best served by assessing the biology curriculum, identifying those topics which would lend themselves to the strengths of the computer and then integrating the computer into the course in these areas. This idea was presented and accepted by the institution as a supportable curricular revision.

The task was divided into four parts: the identification of areas within the biology curriculum for computer assistance, the revision of the traditional approach to allow for computer integration, the writing of programs to fulfill the tasks selected, and the preparation of the student for use of the computer.

Areas within the curriculum were identified by the biology instructor as being amenable to computer assistance. The topics selected from the identified areas perennially created problems for a portion of the student population when presented to them using traditional teaching methods.

The programs to be used for the biology course are written in BASIC for an IBM 370/125 computer. At this time four programs, as described below, are operative and the students' view of these programs are available from the authors.

The osmosis and diffusion program was written by the authors of this article. The enzymes program is a rewriting and consolidation of two Huntington Computer Project programs (NZYMC and NZYM2). The photosynthesis program is also a rewritten

Huntington Computer Project program (PHOSYN). The Genetics program is one presented by Grant Thorsett at the 7th annual CCUC/7 conference. In various stages of development and/or rewriting are programs on population genetics, DNA/RNA and biorhythms.

Osmosis and Diffusion: This program is designed for students to use after completing a laboratory experience on osmosis and diffusion. The program poses three problem situations, each followed by a sequence of questions concerning each situation. It acts as an uncomplicated introduction to the mechanics of interactive computer use and as reinforcement of the vocabulary introduced during the laboratory period. It allows immediate application of the concepts presented by the laboratory experience.

Enzymes: This program is intended to replace the traditional laboratory experience with a simulation; the computer simulates an experimental situation. The computer calculates the rate of enzymatic reaction as various environmental factors are varied; the student being allowed to concentrate on the topic rather than on following directions and tabulating the results. The stimulation leads the student to discover information about the properties of enzymes unencumbered by the time-consuming and distracting physical manipulations that are required when such experiments are carried out in the laboratory.

Photosynthesis: The program on photosynthesis is designed to allow the student to extrapolate on classroom and laboratory experiences. After presentation of the concepts and facts related to photosynthesis, the program will guide the student in discovering the effects of changing environmental conditions on the rate of photosynthesis.

Human Genetics: The human genetics program integrates the actual laboratory experience with data analysis by the computer. The students perform various tests and observations and record the results according to the directions presented in their laboratory exercise. The students then enter their own data at the terminal creating a data file for their own class. From this file various data analysis is done providing a profile of the class and allowing student to search out "genetic equals" in the class. Use of the program removes time-consuming compilations from the laboratory experience.

The preparation of the student for use of the computer is achieved by classroom discussion and the presentation of a packet of information concerning the operation of the computer terminal (available from the authors). Information included in the packet is a step-wise procedure for calling programs, starting with how to turn the terminal on and ending with how to turn the terminal off. They also receive a copy of the keyboard to help familiarize them with the position of the keys and descriptions of what some of the keys do. To minimize computer usage confusion for the students, a uniform format for the programs is established.

It is possible for relatively inexperienced staff members at a small community college to utilize the computer in an ostensibly non-technical way. By starting small and slowly, one can build to a level where a significant impact may be made on the instruction in a given course. Existing material was used whenever avilable. There was no attempt to be highly original.

As students and instructors become more familiar with these programs, modifications, revisions and expansions on this beginning material should provide students with a deeper and broader understanding of the biological principles involved.

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"ROOTS", QUANTITATIVE HISTORY AND THE TEACHING OF HISTORY AT THE COMMUNITY COLLEGE

by Charles E. Gotsch
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Community college history teachers always have to face the problem of trying to provide each student with the opportunity to go beyond the standard lecture-discussion class format to engage in a research project. Most professors have probably accepted the fact that the limited research facilities of the usual community college library force them into assigning their students either book reviews or short secondary research projects. These papers do not, however, provide the student with the opportunity to "act an an historian" and are therefore of concern to many instructors.

I shared this concern until the 1975-76 academic year when I realized that it was possible, with enough preparation, to set up a major research project for community college students. During that year I was on sabbatical leave from Columbia-Greene to complete my doctoral dissertation, highly quantitative analysis of the Albany Workingmen's Party of 1830-1831. In the process of researching that topic I worked extensively with city directories, federal census records, church records and newspapers and it soon became apparent that most of this research could be done by community college students under proper supervision.[1]

The major question to then be answered was what city and time period to study. I decided on the city of Hudson because it is the largest city in the area served by Columbia-Greene and I chose the years between 1850 and 1875 because the federal census records for those years provide more information than the earlier census records.[2]

Since I was scheduled to teach a new team-taught course in American Social and Cultural History on the sophomore level as well as my freshman level sections of United States History, I decided to make participation in the project mandatory for the sophomore level students and optional for the freshmen. In order to prepare for the project, I requested that the college library purchase the microfilmed federal census records for both Columbia and Greene counties from 1790 to 1880.[3] After the college received the census records I developed three sets of five by eight index cards that included spaces for student to fill in all the relevant information on all employed and/or head of household adults from the 1850, 1860 and 1870 federal census records.[4] These cards provided space for information on the name, age, occupation, place of birth, assessed valuation, and names of dependents of all the previously mentioned people from the relevant census report. In addition, the 1870 census cards also listed the place of birth of both parents.

During the fall semester a total of twenty one students participated in the project. Each of these students was assigned specific pages from each of the three census records to be studied. Each student's assignment covered more than one census year in order to ensure that they would be able to find at least one of the microfilms available in the library when doing research. By November I had received enough data from the students so that I was able to hand-compute a series of five tables which showed the students the relationship between assessed valuation, place of birth, and occupation as determinates of socio-economic class in the first ward of Hudson in 1870. Although only the tip of the iceberg, this data whet the appetite of the students and showed them what could be generated from the material they had developed.

The students completed most of the work on the 1850, 1860, and 1870 census records in the fall semester and I decided to have them create a new card file of all those people listed in the Hudson city directories from 1850 to 1875. The college produced a new series of five by eight cards that provided space for the occupations and addresses of all those people included in the thirteen city directories from 1850 to 1875. These cards also provided space on the reverse side for the data from the 1850, 1860, and 1870 federal census records and the 1855, 1865, and 1875 state census records. The material from these six census reports will be transcribed on these cards sometime in the future.

During the second semester participation was again required for my sophomore level students and optional for my freshmen level students. An Independent Study course on the city of Hudson was also developed so that in the spring semester a total of thirty-two students were active in the project. Each of these students received as their assignment specified years and letters for each of the thirteen city directories.

By the end of the spring semester I was able to process by hand enough of the census data to develop tables for all four wards of the city for both 1860 and 1870 which showed the average assessed valuation of property owned by each of the major ethnic groups within the city. I was also able to trace the very limited social mobility that occurred in the first ward between those two census years. Tables were also developed to show the relationship between wealth and occupation. A preliminary socio-economic class structure was then developed for the city. Probably the most striking finding all these tables was that Hudson had a very high percentage of Irish during both census years even though the Irish are never mentioned in any of the histories or either the city or county.

The project was continued into the summer session as a required part of the sophomore level Nineteenth Century history course that I taught. By the end of this term a total of sixty-one students had participated in the project and they had created four separate card files based on the 1850, 1860, and 1870 census records and the city directories from 1850 to 1875.

The project is being continued this fall as my students work on the 1800, 1810, and 1820 federal census records. Future possibilities for the project include, state census records, city church records, social and fraternal records, political party records, and the use of the city newspapers. The project will obviously take years to complete but while it lasts it will permit each student to engage in significant research.

An additional bonus, and one that I must admit I had never really considered until watching the television program "Roots", is the fact that the college is now creating a data bank of all the people who ever lived in the city of Hudson. It is my opinion that this data bank will make it much easier for anyone who wants to do reserach on their own family roots in the city. The public relations value of this aspect of the project should not be overlooked by anyone considering such a project.

A project of this type is relatively inexpensive and can be very successful in generating a great deal of student interest. It also could lead to significant findings in comparative history if enough historians began to develop material on socio-economic class and social mobility in the state of New York.

FOOTNOTES

[1] Some of the best quantitative studies on American history are: Walter Hugins, Jacksonian Democracy and the Working Class (Stanford, 1960); Ronald P. Formisano, The Birth of Mass Political Parties: Michigan, 1927-1861 (Princeton, 1971); Peter Knights, The Plain People of Boston, A Study of City Growth (New York, 1971); Stephen Thernstrom, Poverty and Progress, Social Mobility in the Nineteenth-Century City (Boston, 1964), The Other Bostonians, Poverty and

Progress in The American Metropolis, 1880-1970 (Cambridge, 1973); Lee Benson, *The Concept of Jacksonian Democracy: New York as a Test Case* (New York, 1961); and Stephen Thernstrom and Richard Sennett, eds., *Nineteenth Century Cities* (New Haven, 1969). My own study of Albany is entitled "The Albany Workingmen's Party and the Rise of Popular Politics," Unpublished doctoral dissertation, State University of New York at Albany, 1976.

[2] The City of Hudson is the largest city in the two county area served by Columbia-Greene Community College. The City was founded in 1785 by seafaring men from Nantucket, Providence and New Bedford and had become a major whaling port by the beginning of the Nineteenth Century when its population had reached 3664. The population of the city increased to a high of approximately 12,000 in the 1920 and has since dropped off to about 8,700 today. Because of its quick growth and relatively stable population the city is ideal for the type of quantitative study that Columbia-Greene has begun.

[3] The total cost to the college for these census records was $324. These are available from the Library of Congress.

[4] Sample cards are available from the author.

BRAINSTORMING ABOUT LIBERAL ARTS

by Carol Jamieson
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When the academic dean of Niagara County Community College called a meeting of the liberal arts faculty and told them liberal arts as a program was weak, some faculty --not surprisingly--reacted with indignation. They protested that their courses had high enrollment or that the students who took their courses were excited by ideas, or that they were doing a fine job of conveying the cultural heritage.

Other faculty members pointed out that the significant phrase in the dean's statement was as a program. The dean was not criticizing instructors or courses; he was calling attention to the fragmentation of the curriculum into separate courses. Although faculty might see connections between biology and philosophy and enjoy discussing bioethics, students tended to see each course as a separate little box of information. Students in career programs such as nursing often were in classes together, had shared goals, belonged to career-related clubs, and, therefore, felt a sense of membership the liberal arts students generally lacked.

A lack of feeling of belonging could not be blamed for declining enrollments in liberal arts; such enrollments were dropping at many colleges across the country. Still, student--and faculty--feelings of isolation were symptoms of a real problem. If faculty did not feel they were integral parts of a vital program, they would not be in a strong position to attract students in the years to come when students would not enroll just because the program existed.

The administrative structure of the College reinforced the lack of unity the liberal arts faculty felt. The College has seven divisions (Business; Fine Arts; Health, Physical Education; Humanities; Life Science; Mathematics/Science/Technology; Social Science), none directly responsible for liberal arts. The Humanities and Social Sciences Divisions share responsibility for the Associate in Arts degree (often referred to by its computer designation, LA01), but students in the curriculum have requirements in fine arts, mathematics and science. Similarly, the Life Science and Mathematics/Science/Technology divisions are generally considered responsible for LA02, the Associate in Science (math/science) degree, but those students must fulfill requirements in other division. There has been no clear sense of ownership for either program, although some faculty members in the Divisions of Humanities or Social Science sometimes gave others the impression they "owned" liberal arts. (There are three other liberal arts programs: the music option and the visual arts curricula and the Communication and Media Arts program. All of these are small programs and ones with a clear sense of being within the Fine Arts division, even though the students have course requirements in other divisions. Surprisingly, however, all three lead to Associate in Science degrees.)

Perhaps because some faculty gave the appearance of being custodians of liberal arts--and that liberal arts was "real education",--or perhaps because (when the College was young) the then over-enrolled liberal arts had not been too sympathetic to the then struggling career programs, some who taught in career programs were not sympathetic when the liberal arts enrollments began to decline. Some of the faculty in liberal arts felt frustration and pressure from many sources. Some worried about low morale, looked for signs of it, and carried news of any anger, resignation, or anxiety about retrenchment they found. Others took more positive actions.

In light of the anticipated enrollment decline and the dean's statement about the weakness of the program, a member of the Humanities Division proposed to the Faculty Senate (the College's forum for academic issues) that a standing committee for liberal arts be formed. He pointed out that since two divisions share responsibility for LA01, there was no single point for decision making about the curriculum. A committee with representatives from those two divisions (and perhaps one each from Fine Arts and Mathematics/Science/Technology because of the curriculum requirements) would consider possible changes in the curriculum, propose them to the Senate, and when they had been approved, implement them. Some members of the Senate proposed that the committee have representatives from all divisions of the College. One member of the secretarial science department said, "My students take liberal arts courses. I want to be represented on the committee." The sponsor tried in vain to explain that the committee was not a liberal arts committee but a committee for one program in liberal arts. The amendment to add a member of the Business Division was defeated. So was the original measure. Resoundingly.

THE COMMITTEE

The matter did not die there. A member of the Social Science division proposed that his division and Humanities hold a joint meeting. At that meeting, at the end of the semester, the two divisions elected a committee to meet during the summer of 1976 to consider the liberal arts program. All members of the divisions, not just the elected committee members, were invited to meetings which were held in the evening at faculty homes.

Such committees had been formed before. Just the previous summer a committee had met to discuss liberal arts. Committees, especially committees of volunteers without a specific charge, may enjoy the camaraderie and the discussion but are not likely to make specific accomplishments. Initially there was no reason to assume this committee would be an exception and exceptionally productive.

At its first meeting the committee elected as its chairman the junior member of the philosophy department, a man who was noted for his criticism of our society in general and the administration of the College in particular. The senior colleague who nominated him suggested that--as the most recently hired of the committee members--he was more vulnerable if there were to be retrenchment. The chairmanship would help to establish his position at the College. An outsider might have questioned the choice, but the new chairman proved to be an effective leader. He kept the discussions focused and guided the proposals toward realistic accomplishments.

THE LIBERAL ARTS HOUR

At its first meeting the committee members suggested various ideas for the improvement of the liberal arts program. A number of these were pet ideas of particular members, ideas others had heard before. The members were talking about the concerns which led to the formation of the committee as they discussed the "cafeteria" approach to education--students selecting any combination of courses with no thought to coherence--and the registration system which fostered it. Of the many suggestionss for modifying the curriculum, improving the advisement system, and planning new offerings, two were chosen as able to be accomplished as well as likely to be improvements. The first, which was implemented in the spring of 1977, was initially called the Liberal Arts Hour.

Members of the committee were quite aware that their proposals had to be not only beneficial for the students and interesting enough to faculty to receive support but also not expensive for the College. In the previous few years two "emphases" (American Studies emphasis and Environmental studies emphasis) within the curriculum had engendered considerable effort and enthusiasm but had died (or been killed) because they included seminars with several faculty members and few students. Those involved with the emphases, if not bitter, were at least sensitive about student-faculty ratios and the costs to the College of their proposals.

The person who proposed the Liberal Arts Hour (which was eventually entitled Experience in the Liberal Arts) originally envisioned his proposed series of presentations integrating the liberal arts as a degree requirement. Since some matriculated students take courses only at night and the unique presentations could not be duplicated, this idea was dropped, or at least postponed.

What are the unique presentations which make up Experience in the Liberal Arts? The course meets once a week in a large, (seating allows approximately seventy-five participants) but otherwise quite ordinary, classroom. Each week several faculty members from more than one discipline make a presentation about a topic of their own choosing in a format of their choosing. (In the initial semester many presenters chose panel discussions, but other methods were tried and still others are being encouraged for the future as will be discussed below.) The rule of having several presenters was promulgated partly to prevent a single faculty member with a pet interest giving a lecture. More importantly, however, the requirement encouraged the interactions among faculty members with differing specialties. Exchanges during debate and discussion between the various faculty would illustrate to students the interrelationships among disciplines.

Because faculty proposed the course, because some enjoy a chance to perform, and because the sessions would be run by volunteers so the burden of a whole course would not fall on any one person, the liberal arts idea was discussed without worry about faculty load. In the fall of 1976 the proposal was presented to a joint meeting of the Humanities and Social Science divisions and accepted. The syllabus was accepted by the College curriculum committee. The chairman of the summer committee agreed to assume responsibility for the administrative work for the initial offering in spring 1977. He consulted with the director of Student Activities about having the Liberai Arts Hour during one of the two College Hours each week and was able to reach an agreement. The College Hours are one and one-half hour periods specifically established in the College schedule to allow for co-curricular experiences for students and faculty to share in. The Experience in Liberal Arts clearly provided another opportunity for that interchange. He solicited ideas for presentations, arranged the schedule, kept track of attendance and student response to the sessions.

The sessions were varied in manner. Although panel discussions were the most common mode of presentation, there were slide shows, videotapes, and a chamber theater presentation by students. Those experiences were delightful and the faculty wanted to encourage student involvement. In the meetings this summer the committee discussed ways to increase student participation. They recognized that at some sessions the presenters and the faculty in the audience were enjoying the interaction so thoroughly that only fairly vocal students had a chance to take a turn. The faculty's interaction increased their feeling of belonging to a group with shared interests and was quite appropriate, but could undermine the purposes of the course if it became the only mode of interaction. Fortunately, the group is both sensitive to such possible problems and able to discuss them without bad feelings.

The topics were varied: "What do we mean when we use the word 'freedom'? Is it just an illusion?" discussed by a philosopher, a Skinnerian psychologist, and a member of the English department; "Deviant Behavior" discussed by a psychologist, a member of the criminal justice department, and an anthropologist; and "The Rebirth of Art and Literature in the Renaissance" with members of the Fine Arts and Humanities divisions. Plans for the fall include a similarly varied choice: "Genetic Engineering I and II" with a biologist, an anthropologist, and a philosopher; "Niagara Falls: A Poem" with a poet and the sociologist who teaches Community Studies; and "The Pyramids" with an anthropologist, a historian who has a special interest in Egypt, and a member of the English department who took slides of the pyramids on her trip to Egypt this summer.

THEMATIC GROUPINGS

The second proposal the committee decided to work on was thematic groupings. Less ambitious than an emphasis like American studies, a thematic grouping would be a combination of courses a student may elect in a particular semester. Several groupings would be offered each semester. For example, one semester the offerings might be:

Early American	Man and Environment
Early American History	Ecology
American Literature I	Existence and Values
Philosophy of Religion	Man and Technology

If a student chooses one of the offerings, he or she tells an advisor before registration and a seat in each course is saved. The instructors of the three courses will know that the students in the designated section are taking the other courses. The instructors can meet periodically in or out of class to discuss students, assignments, and shared experiences. Perhaps even schedules can be arranged to allow cross-disciplinary meetings and presentations.

THE COMMITTEE WITHIN THE CONTEXT OF THE LIBERAL ARTS PROGRAM

The group which is accomplishing these innovations, and which I have sometimes referred to as a committee, has little formal structure and no desire to become part of the institutionalized structure. At a recent meeting some of those present, including some elected members of the committee, were not sure which were the members. The informality is reflected in the names the group has been called. When it was established, it was, without much thought, called the liberal arts committee since that had been the name for the committee proposed to the Senate. More recently, out of deference to those concerned with the math/science curriculum, the committee became the "LA01 brainstorming group" or the "think tank." Members of other divisions, who have always been invited, have come to meeting in greater numbers since the name change, although that is probably from becoming aware of the group rather than from preferring the new designations.

The role of the group (and the issue of an appropriate name) came into sharper focus because of an impending evaluation of the LA01 curriculum imposed by the College itself. If the committee, which was already functioning, had wished to take the lead in a self-evaluation, it would have been encouraged to do so. But the members emphatically stated they wished to consider program ideas, implementing one before starting on another. Similarly, they told the person who asked the group's approval of a plan for an honors program that they did not form a legislative body, that if he felt he needed approval he should ask at a joint meeting of the Humanities and Social Sciences division.

THE DOCUMENT

The preceding section should suggest that the committee members were not shirking responsibilities or that their efforts had no connection with other, more institutionalized, activities. Indeed, their efforts are encouraging and accomplishing a revitalization of the liberal arts program. In addition, during the summer of 1976 the group wrote a document entitled "The Scope and Intent of a Liberal Education". The document lists eight broad goals for education, goals the committee members agreed that they should be striving to achieve for and with their students. The document was useful when the College Institutional Priorities committee requested a statement about the value of liberal arts and will be a resource for the coming evaluation of LA01.

COMMENT

There is significance in the development of the new course, Experience in the Liberal Arts, because it is cross-disciplinary, interactive--and fun. But the major significance, it seems to me, must be on the larger context of the process of developing that course and the other projects of the brainstorming group. These features are noteworthy:

1. The committee and its projects are faculty initiated. (This means that progress sometimes seems slow since teaching faculty seldom have a common hour for meeting. It also means that a project which is implemented will be supported as long as it serves students. Administrators have been welcomed at meetings and have been supportive of the activities of the group, but the faculty have always taken the lead.

2. The committee and its projects have overcome disciplinary and divisional barriers. This ideal is often talked about but seldom accomplished. This group's projects are concrete steps to integrate the liberal arts disciplines and divisions.

3. The committee perceived a need and addressed it. The members recognized other needs of the College (and its members were--and are--active on a variety of college committees) but this group restricted itself to projects which they could carry out.

4. Liberal arts as a program is still less unified than the career programs, but it now gains strength not only from its diversity but also from a new source of shared experiences.

This spring the academic dean told the liberal arts faculty that more people should know what is happening in our liberal arts program. The "weak program" is being revitalized.

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